

MIDWEST ENGINEER



S E R V I N G T H E E N G I N E E R I N G P R O F E S S I O N



**European Recovery and American Industry—Technical Improvements and
Employment—Sanitation for Trailer Coach Parks**

VOL. 1

MARCH, 1949

In Two Parts—Part I

No. 7

1869



1949

MEMO TO:

Advertising Managers
Advertising Agencies

80 YEARS of service to the engineering profession, to the community and to society at large by the Western Society of Engineers will be climaxed on May 25, 1949 by the public dedication of the new Engineering and Science Center housing the headquarters of the WSE at 34 E. Randolph Street in Chicago.

This double event will be commemorated in a special issue of **MIDWEST ENGINEER**, describing the new Center, the current status and activities of the Society, its proud heritage and aspirations for the future.

This permanent record of a truly remarkable story will afford a unique advertising opportunity. Your name and message in the 5000 copies of this special edition will insure your place in a veritable "who's who" of prominent firms identified with this field.

Space reservations are being accepted now. Use the form below.

Midwest Engineer
34 E. Randolph St.
Chicago 1, Illinois

Gentlemen:

Please enter our order for _____ page in the 80th Anniversary Issue of **MIDWEST ENGINEER**, scheduled for publication May 25, 1949.

Rates for single insertion:

1 page (7¼ x 10)\$125.00
 ½ page (3½ x 10) or (7 x 5) ... 67.50
 ¼ page (2¼ x 10) 42.50
 ¼ page (3½ x 5) 33.50
 Prof. Card (2¼ x 2) 10.00

Halftones: 110 screen

Position and color cost: upon application
 Ten insertions, including Yearbook—5% discount
 Terms, Net, 30 days from date of invoice.
 Agency discount 15%

Current **MIDWEST ENGINEER** advertisers use regular schedule for multiple insertions. **FORMS CLOSE APRIL 29.**

Make checks payable to the Western Society of Engineers.

Name _____

Company _____

Address _____

Published Monthly
except June, July, August by
**THE WESTERN
SOCIETY OF ENGINEERS**
at
2207 Dodge Avenue
Evanston, Illinois

GENERAL AND EDITORIAL OFFICES
84 E. RANDOLPH STREET
CHICAGO 1, ILLINOIS
TELEPHONE: RANDOLPH 6-1736

Copyright 1949 by
THE WESTERN SOCIETY OF
ENGINEERS

Entered as second-class matter September 23, 1948 at the post office at Evanston, Illinois under the Act of March 3, 1879.

Serving the Engineering Profession



European Recovery and American Industry.....	2
Sewage Treatment for Trailer Coach Parks.....	4
Technical Improvements and Employment.....	7
Construction of Detroit's Expressways.....	9
U. S. Patent System Provides Incentive for Research.....	12
Midwest Power Conference.....	15
Grievances—Cause, Effect, Disposition.....	17
Western Society Applications.....	25
Washington Award Dinner.....	27
Western Society Calendar.....	28
Western Society Meetings.....	29
Book Reviews.....	30

Bigger and more costly bridges must be built to keep pace with increasing traffic demands. Shown above is the Auburn Street Bridge across the Rock River in Rockford. The structure has four traffic lanes and sidewalks on each side for pedestrians. (Photograph, courtesy of Division of Highways, State of Illinois.)

COMING IN THE APRIL ISSUE:

RUSSIA AND THE COMMUNIST CHALLENGE

CHICAGO TRAFFIC AND THE BARTON REPORT

European Recovery And American Industry

A. G. Bryant, President

Bryant Machinery and Engineering Company

Partial Transcript of Address Presented at Illinois Institute of Technology, February 15, 1949



A. G. Bryant

If there can be no doubt of the urgency for stimulating European recovery through American aid, there should be no question also as to the advisability of directing our assistance so that America's business health may be sustained. The right kind of European recovery is an essential to long-range American business prosperity but the wrong kind of European recovery may undermine our American business future.

No one with a firsthand knowledge of general conditions in Great Britain and Western Europe can question logically the wisdom of America's decision to furnish both emergency relief and the means for economic recovery. When, however, relief continues to be furnished without adequate direction from America as to its use, the end results can be delay in getting Europe on its feet and damage to essential industry in America.

Recipients Decide Use

American policy has directed ECA to allow the foreign governments to determine how to utilize the funds that we have advanced and where to buy the goods that they require. We have screened the allotments that have been requested for various items but the initiative for undertaking various recovery projects for the use of our funds has been left with the individual governments and with the O.E.E.C., the interlocking overseas organization that decides how to split up the business that is obtained. We have been so anxious to avoid charges of imperialism and of dictation that we have leaned over backwards in giving freedom of action to foreign countries in the use of the funds and of the goods that we have loaned and granted in outright gifts.

The recipient nations are of course vociferous in their public demands that they have a free hand in the disposal of funds. Privately, however, officials of the various countries are amazed that we Americans are so naive as not to require them to utilize our funds and our goods in channels that will be to the combined best interests of European recovery and the maintenance of American stability.

Most people in America have assumed that we are dictating how our aid shall be used. But the actual procedure is the opposite and as matters stand at present ECA is powerless to change policies because it is controlled by the dictates of Congress as reflecting what has been our stand in foreign relations.

Unfortunately we receive no credit abroad for our generosity or for our altruistic attitude in letting the foreign governments decide how they shall use our resources. One can travel widely in the foreign countries now receiving our aid without finding anyone who does not think at present that America is only helping Europe because it expects to get something eventually from them. Many feel that we are shipping goods abroad only to bolster up our home economy. Others feel that we are selfishly supporting Europe so that it may serve as a security bulwark in the event of an attack by Russia. Others see in our actions a desire to control Europe's economy to our own advantage.

As no one credits us with a broad-gauged charity in our giving, it is ridiculous not to take a forthright stand in insisting that the funds and goods that we are pouring into Europe be used for the utmost efficiency in the economic and

social recovery of the devastated nations. As a matter of fact, America would receive more respect for its foreign policy if it took a strong stand and gave every receiving nation the impression that our judgment and our welfare is going to be considered along with that of Europe in connection with every grant of relief which we make.

It is time that we stopped coaxing and pleading and started directing the use of the funds which we must continue to pour into Europe if those countries are to be reestablished on a sound basis.

And with this change in direction of our foreign policy it is time that we take more into account the effect on America of the relief that we are giving. The Marshall Plan was a noble concept and ECA has been charged with the job of reestablishing economic order in Europe and some other parts of the world.

Overlook U. S. Repercussions

Unfortunately, ECA has no responsibility for considering the effect upon America of the steps that are taken and it is not apparent that other branches of government are greatly concerned with the internal repercussions of our gigantic enterprise abroad.

Again it must be said that America as a great creditor nation of the world must be concerned about the plight of the war-stricken impoverished friendly nations. The greatest unkindness however, that we can do to Western Europe and other nations, is to permit the health of the American economic system to sag at the very time when the security and stability of the entire world is dependent primarily upon America's strength.

Record-breaking business and production in America since the end of the war, occasioned by the world shortages and induced by inflationary tendencies, have lulled us into a false sense of economic security. It has never seemed to occur to many leaders of government that a high rate of business activity in America must be maintained if any reasonable amount of aid is to be continued to the needy nations. We are not criticizing the operation of ECA because no responsibility has been given to that body for considering the effect upon America of its gigantic operations. It is the business of the American public however, and of the Congress, to see to it that in the future American welfare is taken into account along with the extension of aid overseas. To date this has not been done and various industries already are suffering repercussions.

Injures American Industry

It is all very well for our government to state that its European recovery program is for the purpose of reestablishing economic soundness in Europe and that if, in the process, some American industries are injured, that is regrettable but unavoidable. A continuance of adverse reactions in the United States must have a deadening effect on our national income upon employment and then, of course, almost immediately, upon the amount of aid that we can afford to spend.

It is not important this year to the automobile industry that its exports are off 20% from the rate of 1947. In another year or two, however, when supply may have caught up with demand, the loss of export volume may tremendously affect employment in this great industry. Great Britain has announced that it expects to increase its exports of automobiles to the United States from 19,000 in 1948 to 40,000 in 1949. Such figures are of little consequence to our auto industry this year, but what will the trend indicate in the future?

Recently, watch factories in Connecticut have been closed down because of Swiss competition and many hundreds of employees have been released. Our aid is pouring into Switzerland and is bouncing back at us in the form of competition which is closing down some of our old established factories.

The machine tool industry has in peacetime years for decades shipped from 20% to 30% of its volume abroad.

Its machines are recognized by European industry as the best that can be obtained for economical production. Yet to date, more ECA funds have been allotted for the purchase of British and European made machine tools by European industry than have been appropriated for American machines. Only a trickle of American machine tools have so far been ordered under the entire ECA program, a result being that the machine tool industry is operating now at considerably less than one-half of its present much reduced capacity. Meantime the British machine tool industry is being developed largely through the influence of ECA funds and although their backlog of orders average more than one year, the government is requiring that 70% of its output be exported.

The ERP nations expect to triple their exports to the United States by 1952 and in this fiscal year it now appears that Europe will buy about 23% less goods from the United States than was exported.

Now, no one who thinks in terms of sound economics should criticize the exporting of goods from Europe, as that is the only means by which Europe's prosperity can be developed. What is needed is some discretion in the kind of exports that should be encouraged. There are certain products that can best be produced in Europe. There are other products which we need to manufacture here for our own economic good and for our national security. At the present time we see no evidence of any broad-gauged planning to make sure that essential elements of American business are preserved. Rather, the industries that have been suffering are referred to as "unfortunate by necessary casualties" of the process of reviving Europe.

We believe it should be possible to extend our thinking and planning far enough to take into account the welfare of American business and, therefore, of the American standard of living.

Two important changes in foreign policy should occur as we plan on further appropriations for foreign aid and foreign recovery.

First, America should realistically direct the recipient nations in the use to which its aid is put, so as to accomplish great efficiency in production and expedite economic recovery.

Second, in directing the use of its aid, America should see to it that this is used to bolster the segments of foreign industry. There is plenty of work to be done

Offer Special Course

A special non-credit lecture course in Soil Mechanics will be offered during the Spring quarter by the Civil Engineering Department of Northwestern Technological Institute. The course will include a short review of fundamentals; a study of the more important phases of Soil Mechanics such as seepage, settlements, shear strengths of soils, and stability of slopes, and brief laboratory exercises. The lectures, given by Professors P. C. Rutledge and J. O. Osterberg, will run for 10 weeks beginning the week of March 28 and ending the week of May 30.

The course will meet for two consecutive hours either in the evening or on Saturday morning, depending upon the convenience of the majority of those registering. The course fee will be \$20.00.

Application blanks may be obtained from the Department of Civil Engineering, Northwestern Technological Institute, Evanston, Illinois.

Architect Honored

Ludwig Mies van der Rohe, head of the Department of Architecture at Illinois Institute of Technology, has been elected to Honorary Corresponding Membership in the Royal Institute of British Architects.

Notification of his election by the council at its meeting in December has been received from C. D. Spragg, secretary of the Institute.

A native of Aachen, Germany, Mies van der Rohe was the last director of the Bauhaus in Germany, serving from 1930 to 1933. Since he came to the United States in 1938, he has headed the Illinois Tech Department of Architecture.

In addition to his academic work, Mies van der Rohe has conceived and designed the 100-acre Illinois Tech campus now under construction on Chicago's near south side as part of a long-range rehabilitation and development program.

by all in the world. Our shortages are almost unlimited. American genius thus should be used not only to aid other nations, but to see to it that, in the aiding, America's economic structure remains strong. Otherwise European recovery will suffer in a disastrous collapse of American economic strength.

SEWAGE TREATMENT FOR

TRAILER COACH PARKS

Tom H. Forrest, Consultant

Trailer Coach Manufacturers' Association

Presented before the Western Society of Engineers, December 6, 1948

In accordance with a desire to furnish operators of trailer parks with all necessary information for successful operations, and to raise the standards of such parks, the Trailer Coach Manufacturers Association has engaged in the preparation and dissemination of information of pertinent types, and one of these will refer to sewage treatment.

For this purpose, we are preparing a short treatise on sewage treatment which is intended to act, primarily, as an educational aid to the laymen park operators to acquaint them with the various phases of the subject. In addition, we are attempting to provide an understanding of the reasons behind state, local or their Engineers' recommendations, as well as to furnish them with some idea of construction and operating costs.

To furnish a better view point for the problem involved, and to indicate that there is a problem, a little background on the business may be of interest.

Total Trailer Population

At the present time, there are about 500,000 trailer coaches in the United States. In 1948, the industry is expected to produce another 80,000 units. The half-million coaches house a population variously estimated as between one and one-quarter and one and one-half million persons, based on two and one-half to three persons per trailer.

About half of these trailers are parked in some 7,000 trailer parks in the country. This figure does not include gas stations, motels, or backyards where two or three units may be parked. These 7,000 parks represent an estimated investment of about \$175,000,000, exclusive of the value of the trailers.

Of about half-a-million trailers, 75% are estimated to be used for permanent housing, only about 25% being considered as transient housing units. Approximately 70% of all units are owned by veterans.

Purchase of trailers, which vary in cost from about \$2,000 to about \$4,500, is accomplished in the same way that one buys an automobile.

With reference to trailer housing, a study of the ten southern counties of California was made by Dr. Dunn of Occidental College. It provides a cross section of the average trailer park, and gives an indication of the type of people living in such facilities.

In these ten counties, there are an estimated 38,000 trailers in 1,273 parks, with an estimated population of around 100,000. This study shows that trailer residents are, on the average, in a higher occupational and economic group than the average of the total population. An estimated 63% of the trailer occupants have high school or better education, as against 54% for the total population. These same ratios will apply elsewhere in the country, and would probably be higher in purely resort areas. The above merely serves to indicate that residents of trailer parks are the same as in any smaller community.

Until a few years ago, the level of standards for trailer parks was low. In order to sell trailers, there must be adequate parks, and the Trailer Coach Manufacturers Association has set up a service designed both to assist the park operators in constructing a properly arranged layout, and also a rating service for continuing inspection of operating parks.

Some five or six men are constantly traveling the country, and rating parks on a point basis. Such inspection covers general cleanliness and sanitation, utility building which contains the showers, toilets, lavatories, laundry facilities, sewer and water facilities, lot size, and electrical arrangements.

As a matter of interest, in the Chicago area there are an estimated 100 parks, and of these, only ten have been TCMA approved. In the entire country, of 4,000 inspected, only about 1,500 have met the requirements for approval. No park operators belong to the association, and rating is a voluntary matter.

The TCMA furnishes information of all kinds to any interested party.

In the first place, an approvable park is estimated to cost about \$800 to \$1,000 per space. This will furnish sewers, water, 1,000 to 1,200 square feet of area

per trailer, adequate toilets, showers, and lavatory facilities, laundries, and electrical layout.

As part of their service, the TCMA also has available standard plans prepared by the architects whom they have employed on a consulting basis. These plans are furnished to qualified architects or engineers who may request them as guides in preparation of specific plans. In addition, many architects have submitted plans for review and comments, before issuing them for construction.

From the standpoint of housing, the trailer provides most or all of the conveniences to be obtained in an apartment unit. The cutaway drawing indicates the layout of the interior of an average trailer unit of the 27 to 33 foot size. It will be noted that all sanitary facilities are available, with toilet, lavatory, shower, and kitchen sink. Laundry facilities are provided by the park operator in the separate utility building, usually equipped with automatic washers, laundry tubs, and with space for drying clothes. Many parks also provide automatic dryers, and drying of clothes outside is either frowned upon, or entirely prohibited.

The drains from the sanitary facilities in each trailer are brought directly down through the floor of the trailer. Traps are not provided in the trailer connections of sink, lavatory, or shower, but some of the toilets are designed with a trap arrangement.

With the exception of one or two manufacturers, all others stub off the drains below the floor. It is then necessary to connect all the lines to the sewer system. Practice varies, but most park operators provide the connections where permanent occupancy is indicated. Such connection will entail an expenditure of \$20 to \$30. Connections may be made by the use of individual rubber or flexible metal hose, or by the use of a galvanized iron header, with a single outlet to the sewer. A rigid connection to the line is not made, in any case.

In most cases where a sewer system is furnished, a main sewer line is laid with lateral branches to each lot. At

about the midpoint of the lot, a trap is installed, and a riser placed to the ground surface. In this same general location, the water riser will be located, either a $\frac{3}{8}$ or $\frac{1}{2}$ inch pipe being used, with a shut-off valve at this point. Since trailers differ as to the location of the several facilities, the operator usually picks a central location for these risers, and hopes for the best as to connections.

The most common cause for operators to be thwarted in their desire to build a park, other than by financial problems, is on the grounds of creating a nuisance. This always seems to center around the sewage problem. For this reason, and others, the TCMA is preparing its booklet to furnish information on this subject.

It is desired also to inform the operator, before financing or construction takes place, that in addition to other costs, a sewage treatment plant of some type had better be considered.

In this field, as in municipalities and industries, the various states have different regulations, and worse, differing flow estimates. Local authorities also have additional regulations to be met. We advise all prospective operators to contact the proper state and local authorities, and to employ qualified engineers or architects to prepare their plans. However, as a preliminary guide the manual does set up some information, subject to state or local approval.

Additional studies are to be made regarding this subject, but in order to get information out, we have made some estimates based on studies by others and information available.

We estimate that the flow per person, in a trailer park, will vary from 20 to 35 gallons per day. For up to 50 trailers, we estimate 35 gallons per person; from 51 to 100, 30 gallons; from 101 to 200, 25 gallons; and over 201 units, 20 gallons. We are basing flows on an estimated 3 persons per trailer, which will furnish a conservative figure for both flow and strength.

Several states have set up flow data, but in most cases, the flow is not proportional to the number of trailers parked. For instance, Oregon recommends the use of 20 gallons per capita per day. Florida recommends 35 gallons for some parks, and 50 gallons for others. Oregon figures $2\frac{1}{2}$ persons per trailer, whereas Florida figures 3.

To illustrate the problem, Florida would indicate a flow of 105 to 150 gallons per trailer per day, as against $62\frac{1}{2}$ gallons in Oregon.

Data from two parks in Florida shows that, based on 3 persons per trailer, the water usage is 18 and 20 gallons per capita per day, respectively. This would indicate a large safety factor, and for some treatment types would provide a large overdesign of treatment facilities.

For a municipality that is growing, such design may not be too serious. But for a trailer park, where private capital is involved, the additional cost cannot be justified. Similarly, the operator may be so situated that he cannot enlarge his park.

Will Spur Discussion

If the recommendations in the manual do not meet the approval of the several state boards of health, it will at least provide for some discussion, and eventually more uniform and equitable design data.

Strength is estimated to be $\frac{2}{3}$ of the normal amount; that is 0.11 pounds of B.O.D. per person, with solids figured as the same amount. Thus B.O.D. will range between about 380 and 660 ppm. It can be expected that greases and soaps will be in a somewhat higher ratio than in normal sewage, since laundry facilities will allow the usual amount of washing, with a decrease in the total flow. However, no unusual trouble is expected in treatment plant operation from this source, based on information available.

Here again, comments will probably be forthcoming regarding the B.O.D. No information is now available on this subject, due either to lack of sampling or lack of reports. It is expected that the B.O.D. will be less, in pounds contributed, for several reasons. For one thing, the discharge from sinks will be lower, due to the small openings provided, and inability of drains to handle any garbage. In addition, the tenants will use facilities off the park limits. In a municipality, all discharges ultimately arrive at the treatment plant. Where there is residence only, as in a trailer park, a portion of the daily discharge will not be contributed into the affected sewer system. During and since the war, it has been found, in data from several manufacturing plants, that the B.O.D. will amount to from 0.10 to 0.12 pound per capita per day. Based on the Rafter-Baker studies, it appears that the adult male contributes about one-half the total B.O.D. to sewage. Taking into consideration the fact that, of the 3 persons per trailer, one is usually consid-

ered to be a child, and children will contribute to school sewage systems during a part of the day, the figure of 0.11 pounds per person per day seems to be a reasonable assumption for design.

At this point, mention should be made that about 50% to 55% of the trailers in the average park are completely equipped with indoor plumbing. This may eventually rise to as much as 70% or 75%, since the majority of the new units are so equipped.

Several types of toilets are used by the various manufacturers, and the type will certainly have some bearing on the operation of the treatment unit. These types include Pullman type, marine type, and a grinder type.

It appears to be the desire, and a reasonable one, of the state health boards, and the U.S.P.H.S., to see that whatever type is used is so arranged that it is inoperable without connection to a water supply and sewer system. In other words, no use in transit nor indiscriminately along highways.

The flush tank toilet is not used due to necessity for draining the tank before trailer is moved, disturbance to center of gravity, and possibility of freezing.

The Pullman type is, of course, wholly unsatisfactory, even for railroads. For trailers, this is in part due to the small amount of water which is insufficient for flushing the discharge pipe, the necessity for large connecting pipes from trailer to sewer, and clogging troubles unless the discharge is directly over the sewer. Even the railroads are looking for something better.

The marine type provides a positive discharge through the use of a hand operated pump, similar to a plunger sludge pump. This type can be operated either with or without a pressure water system. The major disadvantage is that of cleaning out the plunger from time to time. A small outlet, $1\frac{1}{2}$ ", is provided and positive discharge to the sewer, without clogging, is assured. The discharge may be in slugs, however, and settling in gravity flow sewer lines may be encountered.

Another type of toilet, performing a grinding operation, is now used by a number of manufacturers. The unit is designed with a water-operated grinding arrangement, similar to a Disposall, and mechanically does a good job of grinding, pulping, and dispersing of solids. However, where this type of unit is in

(Continued on Page 6)

TRAILER COACH PARKS

(Continued from Page 5)

the majority, in my opinion, it may hinder the operation of a treatment plant due to a lesser deposition of solids in the primary treatment units, thus throwing a greater load on the secondary system.

In preparing the TCMA treatise, no attempt is being made to design treatment units. It is intended as a guide only, and not to replace either engineers or architects.

In it, we are discussing septic tanks, Imhoff tanks, primary settling with separate sludge digestion, leaching wells, tile absorption fields, sand filters, standard rate trickling filters, activated sludge, chlorination for odor control, and sewer systems.

Primarily, this intends to give the prospective operator some conception of what his engineer, or the state or local authorities are talking about. In each of these subjects, information is given regarding the purpose of the tank or treatment unit, how it operates, the amount of treatment it produces, something about the operational characteristics, and the probable requirements for operating personnel. In addition, there will be sketches of each type with some sizes indicated. It is realized that we cannot hope to meet the requirements of each governmental authority, but we will at least furnish these operators with some data that can be used in a preliminary way.

The manual briefly discusses the method of selection of a system of treatment. Thus, the requirements are set up on the basis of point of discharge of the sewage, the relation of stream flow to ability to handle partially or completely treated sewage, nearness of neighbors and avoidance of nuisance, and nearness to water supply sources.

Some comparison of costs is also in-

Earliest Atomic Benefit To Be Radioisotopes

Not atomic power, but radioisotopes which provide the chemical investigator with tools "a hundred million times as sensitive as a chemical test," will be the chief benefit of atomic energy to industry during the next ten years, according to Bruce R. Prentice, chemical engineer of the General Electric Company's Nuclear Department, Schenectady, N.Y. He spoke February 23 at a public affairs meeting of the Chicago Association of Commerce and Industry.

"Atomic power involves extremely difficult technical problems. For example, we must forge beyond present frontiers of knowledge of materials to succeed" he stated, adding that "furthermore, costs cannot be estimated before we know what will go into the atomic power plant of the future." For these reasons, Prentice observed, "we have no sensible basis for predicting when or if atomic power is to become commercially important."

Prentice noted that "judging from the report of the Atomic Energy Commission, it does not seem possible, even under the most favorable circumstances, for atomic power to be commercially important before the expiration of 20 years" and he added that "even this may be optimistic and figures of 30 to 50 years would be more in line with the development of other power industries."

He reassured fuel and power indus-

trialists by observing "atomic power can find its place only in supplementing other fuels, not supplanting them, and its growth is bound to be gradual.

On the other hand, he added, "radioisotopes, which are elements made radioactive by exposure in an atomic reactor, are available now for use in chemical, metallurgical, and manufacturing industries."

As a typical problem, hitherto impossible, which can now be solved with the aid of such isotopes, Prentice cited the "continuous measurement of a chemical process through the walls of a reaction vessel, without interrupting or disturbing the reaction in any way. Industrial laboratories throughout the country are just beginning to scratch the surface of the multitude of applications sure to be made in the next few years."

Though it is more of a long-range project, "substantial progress in atomic power plant development is being made," he declared. Referring to the experimental pilot plant being erected at the West Milton Area of the Knolls Atomic Power Laboratory near Schenectady, he said that "General Electric and the Atomic Energy Commission believe that operation of this pilot plant in three to four years will give first answers to many of the unique technical problems."

tended, so that an operator can compare advantages of one to another system, not only on cost, but also against performance.

There will be a short discussion of sewer systems, with some data on slopes and sizes, the subject of vents and traps, and grease traps where required. As to the subject of individual vents, localities differ, with most not requiring

them. It is impractical to build them into the trailer, and it is questionable that they are required. Traps are always installed at the bottom of the sewer riser, and running traps are sometimes used in the line from the trailer outlet to the sewer. In this case, flexible metallic hose is used, with a trap in the warm months, and removed by straightening the hose in the cold months.

Pumping equipment will be discussed to acquaint the operator with the various types. As in other things, the cheapest in initial cost may not be the best over all, and the several types will be covered. The use of pumps will create a problem in this work, as the flow is so small as to be well under the smallest practicable sewage pump capacity. Lifts will probably also be quite low.

This entire project is considered to be one of education, sponsored by the manufacturers to help raise the standards of living for this portion of the population.

LURIE & LURIE

Machine Designers Engineers

Development of Special Industrial Machinery

Engineering Service for Manufacturers

126 N. Union Ave., Chicago

MEN Office Help WOMEN

STENOGRAPHERS

TYPISTS — CLERKS

Sommer Personnel System

"Organization Builders"

DE. 2—5850

31 N. State St.

Chicago, Ill.

Technical Improvements and Employment

H. W. Brown, President

International Association of Machinists

Do technical improvements create jobs or destroy jobs? This question has been debated forward and backward, now, for over a century and a half—in fact, ever since the factory system first began to displace the handicraft system as a method of production. Early in the 19th century it was over the effects of the spinning jenny and the power loom in the textile industry; in the middle of the 19th century it was first over the stitching machine, and then over the McKay pegging machine in the shoe industry; late in the 19th century it was over the linotype in printing; and since then it has been over almost a continuous stream of improvements. Around 1910 the debate became particularly sharp over scientific management, a type of improvement which was to reduce such motions as the workers still went through in attending machines to the precision of the machines themselves.

The debate has been going on for all these years, and probably will continue to go on for many more, because improvements both create and destroy jobs at the same time. Those who look on the newly created jobs argue one way, and those who look on the old jobs destroyed argue the other way. The real trouble, even if it should be admitted that improvements create as many jobs as they destroy, is that the newly created jobs are not always available to those who have had their old jobs destroyed from under them.

It could not have been too comforting to a shoemaker, working with an awl and hammer about a hundred years ago, to have been told, now that the McKay pegging machine had destroyed his job, that he could look for another one in a plant making the pegging machine. Even if the pegging machine had made shoes so cheap that the demand for them had gone up considerably, it would have been no comfort to the old-fashioned shoemaker to have been told that he could continue making shoes if he were only willing to operate a machine at an operator's pay. The fact that machines create jobs for on-coming generations, as well as a more abundant supply of goods for society as a whole, is no comfort to those who must accept a lower standard of living in the process.

The unions have generally been looked upon as being hostile to improvements of any kind and therefore, as the saying goes, hostile to progress. But all the unions have ever tried to do was to protect their members from the evil effects improvements incidentally have, no matter how desirable the improvements themselves might be. In this they have been no different from the businessmen who, when contemplating a change, try to protect themselves from the worst effects of the change.

Unorganized Labor Opposes

Out-and-out opposition to the introduction of machinery has generally come from wholly unorganized, or poorly organized, rather than from the well organized workers. A case in point is the violent opposition of the British textile workers early in the 19th century who, prohibited from organizing by the conspiracy laws then still in existence, took to organizing secret societies and smashing machinery. These were the Luddites, headed by "King Lud," about whom as little is known as about the organization he headed. Among recent case histories on the introduction of machinery in America, such as the linotype, the stone-planer, and glass bottle blowing machine, only the national organization of stonecutters, an organization which did not include in its membership some of the most important locals in the nation, and which did not exercise too vigorous a control over such locals as it did include, took a definite position against the planer. The other two national organizations accepted the machinery affecting them, but tried to soften its effects.

In the early stages of the application of machinery to glass blowing, that is, when only the combined pressing and blowing mold (a device which still needed hand feeding) was introduced, the union tried to get management to use regular hand blowers to operate the mold. Later when feed devices were introduced and glass blowing became wholly automatic, the union tried to get management to work three instead of two shifts, so as to provide openings for some of the displaced men, cut down

on the number of apprentices, keep the pressing and blowing molds, which still needed skilled help, in use as long as possible, and in the end the union even offered to compete with machine-made products by accepting lower rates of pay for hand work. The policy of the printers, with respect to the linotype, was that the linotype was to be operated by skilled printers, and that the benefits of the increased output were, in part, to be made available to the printers, through a reduction in hours, because, even with machines, printing calls for skill. The printers had better luck with their policies than the glass blowers.

The machinists are in the business of making machines, besides maintaining and operating them, and machines cannot be turned out like bottles or type, even if the bits and pieces of which machines are made can. The policy of the International Association of Machinists has been to follow its trade wherever it can.

Otherwise it has had only one battle on its hands, and that was, and still is, in connection with scientific management. What gave rise to that battle was the habit of the founders of scientific management, particularly Frederick W. Taylor, of always attacking labor as a means of bringing out the virtues of scientific management.

No one knew better than Taylor, as his work on high speed steel, cutting edges, planning, and plant organization shows, that there was something more to management than squeezing labor, but he always started out his exposition of scientific management with an attack on labor. He did that in his handbook on *Shop Management*, published in 1903, and again in *The Principles of Scientific Management*, published in 1912. In both cases he blamed labor for loafing and soldiering on the job, and in *The Principles* (p. 12) he set out to show that if soldiering were done away with, output could be doubled. In *Shop Management* (p. 69) he claimed that under scientific management, workers are generally so well satisfied, because of the extra pay they get from premiums, that they never

(Continued on Page 8)

Technical Improvements

(Continued from Page 7)

strike and often abandon their unions. Scientific management was thus featured as a substitute for unions.

Ironically enough, the idea that labor was responsible for holding production down was subsequently proven false by a group of engineers headed by Herbert Hoover, and including such well-known practitioners of scientific management as Morris L. Cooke, Sanford E. Thompson and Harrington Emerson, to mention only a few. This was done in a study on *Waste in Industry*, published in 1921. Writing just before the outbreak of World War II, Cooke, in his book on *Organized Labor and Production*, in referring to the study, (p. 96), states that the findings of that study as to the responsibility for waste have "gone unchallenged for seventeen years."

The waste was estimated in terms of points, not below some imaginary standards, but below standards known to have been attained. In a scale of 100, which would have meant total waste, men's clothing added up to 63.8 points; the building industry up to 53.0 points; printing, 57.6; boots and shoes, 40.9; textiles, 49.2; metal trades, 28.7. In assigning the responsibility for the waste, management was found to have been responsible for more than 50 per cent of

the total, labor for less than 25 per cent, and the public for least of all. In the metal trades, where scientific management got its start, although the total waste was the lowest among the industries covered, management, and not labor, was responsible for most of such waste as still existed and, what is more, to a larger proportion than in any other industry. The distribution, as between labor and management, in per cent of responsibility was as follows:

	Management Responsibility %	Labor Responsibility %	Public Responsibility %
Men's Clothing	75	16	9
Building	65	21	14
Printing	63	28	9
Boots and Shoes	73	11	16
Metal Trades	81	9	10
Textiles	50	10	40

The International Association of Machinists fought, wherever it could, against the idea of scientific management as a cure-all for the ills of industry, and particularly, as a substitute for unions. When Carl Barth, back in 1909, began to install scientific management in the Watertown Arsenal in Massachusetts, the machinists lined up against it and have on the whole, ever since 1915, succeeded in keeping it out of government establishments. On the other hand, where sanity prevailed, it was also the machinists who developed a joint labor-management scheme for increasing output. Shortly after World War I, William H. Johnston, then President of the International Association of Machinists, stated before the National Conference of Social Work, in June 1922, that his organization would "continue to go out of its way to find progressive, enlightened employers, in order to devise ways and means of cooperation . . . with the specific object in mind of improving efficiency . . ." (Machinists Monthly Journal, Vol. 34, p. 550). Later Johnston approached the

Baltimore and Ohio and succeeded in getting a joint scheme introduced. Some of the things called for by the joint scheme were job analysis and standardization, better tools and equipment, care and distribution of tools, care and delivery of materials, installation of safety devices, coordination and scheduling of work, introduction of output records, improvement of technical training for apprentices, economical use of materials, rearrangement of tools, balancing of forces and work in shops, building up competent work forces, getting business for the road.

Labor is not opposed to improvement of any kind, except where management tries as it did with scientific management, to put the entire burden of the improvement on labor's shoulders. As already indicated, organized labor is less hostile to the introduction of machinery than the unorganized. This is because organized labor can, to a certain extent, fight off the disruptive effects of machinery while it is being introduced, even if the long-run effects are good. While any resulting delay may, from one point of view, be costly to society, it, from another point of view, may be so much to the good, in that the workers affected gain time to readjust themselves. The bad and good effects of the delay are somewhat similar to those involved in the delay management uses in holding back on new equipment until the old is worn out.

The whole problem would disappear, however, in so far as organized labor is concerned, if some scheme could be devised for carrying workers along while they, following the introduction of new machinery, looked for new work. When the linotype was introduced, compositors working by hand could do about 1,000 ems an hour; with the linotype they could do between 4,000 and 5,000 ems. A single stone-planer, doing the work it was most suited for, could do in a single hour what ten stonecutters could do by hand. An Owen glass blower could do what 54 hand blowers did. In making such revolutionary changes it would be only fair if a part of the increased output could be made available to the men who had to relocate because of the changes. In some cases this could be done through collective bargaining; in others, through legislation.

FREYN ENGINEERING COMPANY

Established 1914

CONSULTING ENGINEERS for

Blast Furnaces—Steel Works—
Industrial Plants
Industrial Power Generation and Use

Technical and Financial Reports
Surveys—Appraisals
Designs and Supervision of Construction

109 North Wabash Avenue
CHICAGO 2

PUMP PRIMERS AIR RELEASE VALVES

VALVE & PRIMER CORP.

127 N. Dearborn St.
Chicago 2, Ill.

Telephone HY de Park 3—4910

SOUTH SIDE CONSOLIDATED EMPLOYMENT AGENCY

Specialized Technical and
Engineering Department

1105 E. 63RD STREET
CHICAGO

O. B. SMITH, Professional Engineer

The Relationship of City Planning, Street Traffic and Mass Transit in *Construction of Detroit's Expressways*

H. C. Coons, Deputy Commissioner
Chief Engineer Michigan State Highway Department

Presented before the Western Society of Engineers, January 17, 1949



Intersection of the Edsel Ford and John C. Lodge Expressways, Detroit.

When highway administrators are faced with the problem of trying to alleviate traffic congestion in our large cities and urban areas, they find that their task is much more difficult because of the lack of planning, not only when the original city or village was laid out, but also in the control of the street pattern of new annexations and subdivisions.

The number one task for highway authorities today is to provide safe, fast and convenient facilities for the movement of traffic into, through and around cities. For many years we in Michigan have been quite busily engaged in building rural highways connecting our urban centers, which was perfectly justifiable, since in our state we find that about 75% of all the traffic moving on the rural State trunklines is of urban origin. However, we are more or less suddenly faced with the problem of traffic congestion on our main highways and arterial streets within and adjacent to our incorporated communities.

Even the Congress has become aware of this situation and for the first time in our history has made substantial ap-

propriations for this type of work. For the fiscal years of 1946, '47, '48, \$125,000,000 for each year was set aside exclusively for improvement of Federal-aid routes in cities of over 5000 population. The 1950 allocation is \$112,500,000, less than the former years by 10%, but the same proportion of the total appropriation. This financial help, and the governing regulations which insist on worthwhile projects, has given quite a stimulus to the improvement of main city thoroughfares and inauguration of expressway routes.

In Michigan, since we had been planning a new east and west crosstown route for the City of Detroit since 1938, and the Detroit Industrial Expressway had been located to fit into and become an integral part of this route, these Federal appropriations made possible the immediate starting of the construction of the first section of this route through the City of Detroit.

As you know, the Detroit Industrial Expressway had been built from the Willow Run plant to the west city limits of Detroit as a war access highway.

The earliest street plan for the City of Detroit was evolved in 1806, following a fire which completely destroyed the original village in June of the preceding year. The plan, known as the Governor and Judges plan, consisted of 200-foot wide avenues spaced at intervals of approximately 4000 feet in a northerly and southerly direction, and at intervals of about 2000 feet in an easterly and westerly direction; in the main this scheme applies with the exception of the section near the river, which you will note resembles the plan of Washington, D.C.

At the intersection of these avenues, 500-foot radius circles were planned. Had this plan been preserved and adhered to, one can readily visualize Detroit as a beautiful city of wide and spacious boulevards. Some of the serious traffic problems facing the city today would not exist and Detroit could easily have been a model for the nation as a carefully planned modern city.

A small part of the original plan exists in downtown Detroit today, and those familiar with the city may recognize some of the features of the original plan.

This well balanced plan was abandoned about 1812 and annexations to the growing city were laid out without rhyme or reason. Land lying outside the settled area of the city had long before been divided into private French claims. These claims were long narrow strips of land fronting on the Detroit River and running back at approximately right angles to the waterfront, for distances as great as $3\frac{1}{2}$ miles. The owners of these strips had not agreed to the Governor and Judges set-up and when they came to subdivide these claims into lots, each owner laid out his subdivision in accordance with the peculiar formation of his own property. This manner of subdividing the claims is the great cause of the lack of continuity in east and west streets within the city which contributes in so large a

(Continued on Page 10)

Detroit's Expressways

(Continued from Page 9)

measure to the traffic congestion facing Detroit today.

About 1830, Territorial Governor Lewis Cass caused to be constructed five military roads—which today form the backbone of the Detroit street system. These radial roads, Fort, Michigan, Grand River, Woodward and Gratiot, terminating in downtown Detroit and following established Indian trails, connected the city with points in all directions. Today these roads, all Federal routes, carry huge volumes of traffic to and from the city.

In 1880, the city, in conjunction with outlying townships, was authorized to construct a boulevard roughly skirting the (then) city limits. This boulevard, together with the five military roads and what remained of the Governor and Judges plan, laid the basis for the city's arterial street system.

With the coming of the automobile and subsequent traffic problems, necessity for a more up-to-date plan became apparent. To meet this need, the Master Plan of the City and Rapid Transit Commission was developed in 1924.

This Master Plan of highways and major thoroughfares provides for a system of super-highways and intermediate roads and major city streets. The over-all plan covers an area within a radius of twenty miles from the hub of downtown Detroit. It was evolved in collaboration with the road commissions of adjoining counties and the officials of their included municipalities, and was formally adopted in 1925.

An important feature of the proposed expressways is that, in a broad sense, they do not propose new routes for traffic. Both expressways generally follow established traffic routes determined by permanent origins and destinations of daily travel, as confirmed by the traffic surveys.

The main objective of the proposed expressways is to provide modern transportation facilities close to and paralleling the streets which the flow of existing traffic has overloaded, and to provide a continuous east and west route.

In 1943, a plan for a network of expressways for the city was prepared by the Mayor's Street Improvement Committee and approved by the Detroit Common Council. This plan designated certain routes to be established for future construction of the expressway system. This plan recommended that the

Ford Expressway cross the city in the general location accepted for construction. The location for the Lodge Expressway in this plan paralleled Woodward Avenue throughout its length. However, the final location of the upper portion of this expressway has been changed to tap the fast growing northwest section of the city.

In 1945, the Detroit Transportation Board engaged the services of Mr. Earl Andrews, a planning consultant of New York City, to make a study of the proposed expressway system and its relation to a rapid transit system for the City of Detroit.

This report analyzed the results of previous studies made by the city and state. It substantiated all of the facts relative to the location, type and need of the expressways, as established by the various surveys and correlated them into a proposed program of construction for the post war period.

The Andrews report recommended a rapid transit system in the center mall for certain of the expressways. Among these were the Edsel Ford. A thorough study of this recommendation was made and it was found that cost was excessive. A system of express busses is now planned for use on the expressways. Bus facilities will be provided on the Ford, at certain crossings.

The culmination of the work of the Engineering committee resulted in the preparation of preliminary surveys and plans on both the Edsel Ford and John C. Lodge Expressways. Both routes were carefully studied and recommendations were made as to final location and plan details at a series of meetings of the committee. Here all participating parties had an opportunity to help solve related problems and establish procedures which resulted in mutual agreement on plan preparation and design details for both expressways.

The expressways, as planned, will be of the depressed type with two 36' concrete pavements separated by a 14' median strip. The curb and gutter adjacent to the median strip to be barrier type, with a curb height of 9". The outside roll curb and gutter will provide a 24" pan with a 5" curb height. The shoulder width adjacent to outside lanes to be 10' to provide for disabled vehicle storage. All shoulders are to slope toward the pavement.

Single ramps are to be 16' in width, curb face to curb face. The side of ramp nearest to expressway to have a barrier

type curb and gutter and the opposite side to have roll type curb and gutter with a 6' shoulder, providing for storage of disabled vehicles. Two lane ramps are to be 26' in width from curb face to curb face, with the other design features the same as single ramps. All ramps to be surfaced with bituminous surface over a concrete base.

Service roads will generally be of the non-continuous type. They will be 30' in width, except those which connect an alley to an existing street, these are to be 22'. The surfacing of service roads is to be bituminous surface over a concrete base.

Then followed numerous studies of proposed improvements to alleviate the ever expanding traffic problem. One of the results of these studies was an agreement entered into by the State Highway Department and the City, to widen Woodward, Gratiot and Michigan Avenues from the downtown business district. Some \$32,000,000 was expended on this program but the widening of these original military roads did not provide sufficient traffic relief and in the case of Woodward, the establishment of one-way parallel streets on either side still does not solve the problems. Of the other two original military roads, Fort Street requires reconstruction at this time and Grand River, because of its vital importance, is programmed as a proposed expressway route.

In 1937, a very comprehensive traffic survey conducted by the Michigan State Highway Department in conjunction with the Detroit Police Department and Works Progress Administration was completed. One of the recommendations resulting from this study was the need for this development of more adequate facilities for east and west traffic movements across the city. Three routes were recommended for early construction.

Needed Crosstown Route

Recognizing the need for a crosstown route, our department made an independent study to solve the problems encountered in such an undertaking. In this study the definite necessity and location for the crosstown route was established by origin and destination traffic studies. Detailed studies were made of roadway types, definite locations, interchanges, costs of right of way, proximity to industrial and business centers and various other related factors of modern transportation.

The original highway report recommended depressed, elevated and surface sections along the proposed route. This was later modified in the post war program, due to material shortages, to the depressed type of construction throughout.

Davison Highway is a depressed, six-lane divided expressway about a mile long. Crossing the heart of Highland Park, old Davison was the only continuous through east and west street in this vicinity. In 1940, before the reconstruction, it carried a traffic of around 15,000 vehicles per day. In June, 1948, the one-way service drives on either side were carrying approximately the same number of cars with the chief difference that the 1940 figure was largely through traffic, while at present it is purely local. Down below on the Expressway itself, 45,000 cars, trucks and busses are at present using this facility, with peak hour traffic at 2200 in one direction. This is a very fine example of induced traffic from other less convenient routes.

In 1944, following the enactment of Federal-aid legislation providing specific allotments for municipal projects, our Commissioner Ziegler entered into an agreement with the City of Detroit and the Board of Wayne County Road Commissioners assuring the construction of the recommended Edsel Ford Crosstown Expressway and the John C. Lodge Expressway, to relieve Woodward Avenue. Under this agreement, cooperation between the interested parties is assured and their responsibilities and financial obligations are outlined.

Integrate Designs

The next step was the establishment of an Engineering Committee to formulate the plans and integrate general design procedure affecting expressways. This committee was composed of representatives from all participating agencies—the Public Roads Administration, Detroit Traffic Engineering Bureau, City Plan Commission, Police and Fire Board, Public Lighting Commission, Detroit Water Board, City Engineer's Office, Detroit Street and Railways, Board of Wayne County Road Commissioners, and the Bridge, Road and Planning and Traffic Divisions of the Michigan State Highway Department. This committee functioned in a very effective manner, and the results of its work have been highly satisfactory.

The general location plan of the Edsel Ford and John C. Lodge Expressways

Farm Electrification Program

The farm electrification program of the Public Service Company of Northern Illinois—launched more than 20 years ago—was virtually completed during 1948 with 31,643, or 99.5 per cent, of the 31,799 farms in the company's 6,200 square-mile service area having electricity available at the end of the year.

This was announced today by Britton I. Budd, president of the utility, who reported that 922 additional rural establishments were connected to the company's rural electric network during the year.

As a result, on December 31 only 156 farms were still beyond present power

closely approximates the routes dictated by the various engineering and traffic studies in Detroit and the metropolitan area.

The Edsel Ford Expressway extends from the eastern terminus of the Detroit Industrial Expressway at the west city limits, and across the city in a north-easterly direction to the north city limits.

The John C. Lodge begins in the downtown business area and extends in a northwesterly direction through the city, terminating in the northwest residential section. It will intersect the Edsel Ford Expressway.

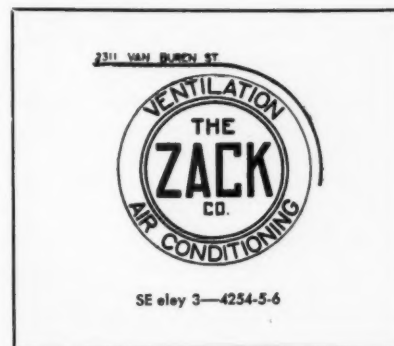
lines. Extensions are now being built to bring electricity to 35 of these which have recently contracted for service, he said.

Farmers are using more electricity than ever before, Budd also pointed out. Average use per farm, he said, was 3,622 kilowatt hours during 1948, an increase of 427 over the year previous.

"But even more important," Budd added, "new and better ways constantly are being devised for speeding farm production and farm chores through use of electric power."

Now electric work-saving equipment listed by Budd as accounting for part of the growing use of power on northern Illinois farms included crop dryers, barn cleaners, silo unloaders, milkhouse heaters, and domestic milk pasteurizers.

At the end of 1948, the company had 7,385 circuit miles of rural electric lines in service.



PAGE ENGINEERING COMPANY

MANUFACTURERS OF

AUTOMATIC DRAGLINE BUCKETS
PAGE DIESEL WALKING DRAGLINES

CHICAGO

U.S. Patent System Provides

INCENTIVE FOR RESEARCH

Earl Bunting,

Managing Director, National Association of Manufacturers

It may be that an inventive genius will give his utmost to complete his ideas—without concern about whether they will be used widely, or if he will receive recognition and reward. But there is no support in history for this theory, and the National Association of Manufacturers does not subscribe to it.

That is why one of the largest and most active of the standing committees of the NAM is the Patents and Research Committee. This group has accepted the task of stressing to the public the importance of the patent system in providing incentive for inventors and researchers to make their ideas public, and of keeping industry informed of all proposals designed to strengthen the patent system.

Also, it exercises continuous vigilance in scrutinizing proposals which would tend to undermine the patent laws and discourage the nation's research activities.

Efforts to knock the props from under the patent system are not so much in the headlines as, for instance, attacks on business profits. Perhaps for that very reason the American public is not so well-prepared to defend the patent system when it is endangered.

The patent system is pretty well taken for granted; it is apt to seem remote from the concerns of the everyday American. These are circumstances which improve the chances for success of a well-organized—and often well-disguised—thrust at our patent law's vitals.

It is no mere coincidence that opposition to the American patent system stems from the same sources as attacks on the larger target—the American competitive enterprise system itself.

Off-hand, it might seem that to attack patents is an ineffectual way to injure American industry and the nation's economic future.

But when the essential relationship between patents and our entire industrial economy is considered, and the history of patents in the building of the nation's economy is remembered, then

it is no longer surprising that subverters of American enterprise consider sterilization of our patent system one of their principal long-range weapons.

A few weeks ago the principle of permitting inventors and developers of inventions from profiting from new ideas was attacked by an individual who urged that all business secrets, discoveries and developments should be open to the inspection of business rivals and even to the United Nations. He went so far as to attempt to blame American enterprise and our patent system for the failure of nations to agree on a plan for atomic inspection.

It would be easy to classify this man as a misguided and not too intelligent idealist—if it were not for the fact that he is well-known as an extreme left-winger.

We are asked to believe, by the enemies of the patent system, that human progress and welfare is stifled under a system which allows inventors the right to a reward for their inventions.

No one has ever made a better answer to that argument than a Chinese diplomat, who was talking with an American businessman at a Washington banquet.

The diplomat was reminded that the Chinese are credited with the invention of the printing press, gunpowder, paper, the principles of modern irrigation, basic chemical research and the engineering concepts exemplified in the Great Wall of China. Nevertheless, in spite of manpower, natural resources, native skill and ingenuity, China never became a great industrial nation.

It was an enigma that long had puzzled the American.

"It is true that my people are inventive and ingenious," the Chinese replied. "When I was young I was as puzzled as you are. But now I know that it is simply because China never has had a system of patent protection such as you have in the United States. There was no way in which Chinese inventors legally could protect their exclusive rights to their own inventions. Anybody could steal and market the other man's invention.

"Consequently, if a man invented a useful thing he kept its secret to himself, making what little profit he could in a limited way, and at death passed it on to his oldest son. Often the son was not interested; in other instances the father died before he could give the secret to his son. Under such circumstances, thousands of Chinese inventions have been lost to both China and the world—and today China is called a 'backward' nation."

In using this illustration of the necessity for an effective patent system, I do not mean to imply that patent protection alone is a guarantee of a progressive industrial economy.

But it is an absolutely essential part of the system which we call individual competitive enterprise.

Without a patent system, there cannot be a truly free and competitive enterprise system, with its ever-rising standard of living. Conversely, if you do not have that kind of economic system, a patent system would be of no more use than the human vermiform appendix.

Since this nation was founded upon principles of recognition of the rights and freedoms of the individual, it is not surprising that the patent principle in its pure form was given its first legal recognition in the beginnings of our government.

The right of a man to be rewarded for his inventions and discoveries is implicit in the unique American principle that all political rights ultimately repose in individuals, and that government is established to preserve and to protect these rights.

Patent protection is so obvious an inherent right of man that there is no record to indicate that our Constitutional Convention even debated the question. What the Convention did, with evident unanimity, was to put into the Constitution a provision that "Congress shall have power to promote the progress of science and useful arts by securing to authors and inventors the exclusive rights to their respective writings and discoveries." The Congress

exercised its authority by enacting a patent law at its first session.

The law implies, of course, that the inventor has the right to keep his discovery secret. Without a patent law, that is probably what he would do. But the fact that he is safeguarded for a reasonable time in the enjoyment of whatever benefits the invention may earn gives him the incentive to reveal his secret to the public—and the entire public is benefited, as well as the inventor.

Thus the patent law has added to our national wealth thousands of discoveries and developments which otherwise could have remained hidden and unused, as in China for uncounted centuries.

As a practical matter, the principle of patent protection is an integral part of our individual enterprise system, with its fundamental assurance that men shall have the opportunity to earn rewards in proportion to their contribution to the economy.

Patents Vital To System

Patent laws are not a form of special protection for enterprising individuals, but the logical extension of the profit principle to the field of invention.

Certainly it would outrage consistency to repeal or restrict the patent law and at the same time permit the production and exchange of goods for profit.

We Americans are accustomed to hearing ourselves described as unusually energetic and enterprising, with marked technical superiority and scientific curiosity. Interested foreign observers and visitors even attempt to psycho-analyze us to find out why we are so industrially fertile and proficient.

Strangely, it may seem to us, few of them perceive that America's development stems directly from the fact that our constitutional freedoms are of such a nature and scope that they not only permit but encourage a man to be whatever his will and skill make possible. Fewer still—Americans or others—recognize that our patent law defends one of these basic freedoms and is a positive recognition of the profit motive which has played a key role in the building of this nation.

It is probable that if we did not have a patent law, men still would have invented things. But it is not likely the inventors would have made them public and offered them in a free market in the absence of patent protection.

If everyone had the right to use anyone's invention, few would be willing to go through the creative ordeal it

takes to make a workable reality out of an idea. It would be much simpler, and just as rewarding, to use only those ideas which happened to be handy. There would be about as much progress in a century as we now have in a single year.

It would not be long, if opponents of the patent law succeeded in crippling it, before industrial confusion would become industrial chaos, and the inventive urge would die out. This, of course, is exactly what the foes of our patent law want to happen in the United States. They want to destroy every aspect and facet of individual freedom.

We can make our own estimates of how much technological progress would be made if Americans were subject to the Marxian system. It is difficult to imagine that the technical brains of this country could work as they do today if recognition and rewards for their achievements were to be distributed arbitrarily by a small group of commissars answerable only to a red dictator.

Besides encouraging and protecting inventions, the patent law confers several other less obvious benefits on American life.

One of them is that if inventions in the United States were not given a legal status approximating that of private property, it would be virtually impossible for an inventor to obtain the use of private capital, which almost always is essential to the development and application of a new discovery.

This question of private venture capital is as important to inventors as it is to industry and the nation itself.

The essential partnership between technological progress and the formation of capital is demanded by logic alone. There is, however, definite proof that industrial advances must be paced by investment of capital. During the period from 1869 through 1929—the period in which America became the world's greatest industrial nation, with the highest standards of living ever achieved—we invested an almost unvarying 20 per cent of national wealth in capital goods and processes of all kinds.

This capital was ventured by individuals in new inventions and new discoveries.

In recent years, there has been a serious lack of capital formation. Instead of steadily improving and expanding our industrial plant as the nation had done for six decades, we neglected our capital equipment during the de-

pression years and we placed a terrific strain upon it during the war years.

Steeply progressive income taxes, upon those who formerly supplied the funds for risk investment, have come near to drying up individual savings which otherwise would be ventured to expand existing enterprises and to create new ones.

Certainly there is no dearth of American ingenuity nor of inventive genius. Nor is a "pioneer" economy necessary to rapid progress. Our greatest economic advances were made after the expansion of our geographic frontiers had ended. They were made, too, in periods when the rate of population growth was declining.

Neither expanding frontiers nor a climbing rate of population growth proved essential to our economic advancement.

Industrial Frontiers Remote

I do not need to remind engineers and technicians that America's scientific and industrial frontiers—if any such frontiers do exist at all—are so far ahead that none of us can see them even dimly.

But until we as a nation solve the problem of unblocking the sources of creative capital, we cannot assume that American industry will be able to develop and apply the numerous improvements and inventions available to us from our national wealth of technical and inventive brains.

There will, of course, be no possibility of solving our capital formation problem if the patent law is weakened or destroyed and the daring and imaginative skill of our technological explorers are to be communized.

Because our patent law gives the inventor an exclusive right to his work for the first 17 years after he makes it public, some conclude that the government thereby fosters a dangerous monopoly.

There are manifest flaws in this contention. First, an inventor's profit usually is moderate. As a participant in the competitive enterprise system, he is just one of thousands operating in a free market.

Again, if there were no patent law he would be unlikely to make his discovery public. If he kept it secret, he then would have an actual monopoly. When he does make it public, he must do so, under the patent law, in such detail that at the expiration of 17 years anyone can copy, use or adapt it.

(Continued on Page 14)

Incentive For Research

(Continued from Page 13)

By making public his invention, under patent protection, he stimulates others to invent similar or competing devices—some of which turn out to be better than his. Thus the operation of individual enterprise quickly protects the public from unfair treatment by a shortsighted owner of a patented invention.

Occasionally it is objected that the patent law may act as a roadblock to progress because it does not compel the holder of a patent to use or make available the invention patented.

At first glance, there seems to be some point to this. But when you examine it, you find the fact is that in many instances, the patent holder is merely refraining from using his invention until it has been perfected, or until market conditions make it practicable for him to use it. There is no progress made by premature use of a not-yet-perfected product; it may, actually, result in the discarding of what might have been a valuable idea.

Often the patent holder is unable to use his invention because of difficulty in raising the capital needed for its production. An inventor cannot foretell the obstacles he may meet, and it is not fair to expect him to make public experiments until his basic idea safely has been patented.

Another answer to the charge that the patent law breeds monopoly is to ask one of these critics where small business would be without patent protection.

Thousands of small concerns in this country are prosperous primarily because the patent law protects their exclusive right to the unique products they have developed. These same small companies sell much of their output to large corporations. If we had no patent law, what protection would the small firm have, if an unscrupulous customer decided that he might as well make the

Outlines U.S. Trade Opportunities

Twenty billion dollars worth of foreign trade opportunities a year await American traders in today's world markets, Harold D. Arneson, president of Abbott Laboratories Export Corporation, told the Chicago World Trade Conference in session today in the Hotel Sherman.

More than 1000 exporters and importers from the United States, Canada, and several foreign countries gathered for the one-day meeting, sponsored by the Chicago Association of Commerce and Industry and the Export Managers Club of Chicago.

Quoting ECA director Paul Hoffman to the effect that "world trade is insurance against severe depressions," Arneson declared: "As exporters, through skillful practice of our profession, we can do much to open markets that will provide a stable demand for American goods. As importers, we can do the same for the goods of others."

This opportunity for increased volume and profit was one of several Arneson outlined in discussing "Opportunities and Obstacles in Today's World Markets," before the group. The opportunities far outweigh the obstacles, he said, assuming that there will be no war in the near future and no radical change in government of a major western power.

"Despite all loose talk to the contrary, there are several important markets in both hemispheres which today have dollars to spend and are willing to spend them for the goods they need," Arneson

said. He named the Philippine Republic, "certain countries of the Middle East, Switzerland, and a gratifyingly large majority of the republics of Central and South America.

"On a much larger scale, there are other countries which, though temporarily short of dollars, offer very good possibilities for the long pull. Specifically I have in mind most of Western Europe, certain republics of Latin America, and those countries whose economics are linked closely to the pound sterling."

Arneson named as a second great opportunity—"which must be seized if we are to survive commercially—holding and consolidating markets acquired because of the war." "This situation," he declared, "provides a golden opportunity for American management, particularly in the field of sales management, to prove its mettle."

"The year 1948 brought improvement in our position," Arneson recalled. "While exports dropped to \$12,600,000,000, imports increased to \$7,100,000,000. The world's deficit in trade with us was therefore only 5½ billion in 1948."

To cure this unbalance Arneson said this nation would need to continue to aid in establishing world political security, to maintain high employment and stable prices domestically, aid in creating stable exchange rates, continue the reduction of tariffs and other trade barriers, and encourage American investments abroad.

There is an old American saying, usually attributed to Emerson, to the effect that if you can make a better mousetrap than your neighbor, the world will make a beaten path to your door.

The world will do just that—whether you have made a better mousetrap or a better atomic power-plant—but only if you have taken out a patent on it!

E. R. GRITSCHKE

Consulting Engineers

Designers of

MECHANICAL and ELECTRICAL SYSTEMS
for BUILDINGS

11 S. LaSalle St., Chicago 3, Ill.

FULTON ASPHALT CO.

"Since 1870"

ASPHALT MASTIC FLOORS
ACID PROOF MASTIC FLOORS
INDUSTRIAL COMPOSITION FLOORS
HASTINGS COMPRESSED ASPHALT
BLOCK FLOORS

165 W. Wacker Dr., Chicago 1
RA ndolph 6-1760

ROBERT W. HUNT COMPANY ENGINEERS

Inspection • Tests
Consultation

Engineering Materials

Cement • Concrete • Chemical
Physical and Metallurgical
Laboratories

175 W. Jackson Blvd., CHICAGO, And All Large Cities

MIDWEST POWER CONFERENCE

Sponsored by Leading Professional Groups And Universities to Open April 18 in Chicago

The eleventh annual meeting of the Midwest Power Conference will open April 18 at the Sherman Hotel. Sponsored by Illinois Institute of Technology, the conference has the cooperation of nine universities and nine professional engineering groups, including Western Society of Engineers.

On Monday, April 18, registration will open at the Sherman Hotel at 8:30 a.m., with the opening meeting beginning at 10 a.m. Chairman of this meeting will be Alex D. Bailey, Vice President, Commonwealth Edison Co., Chicago. The address of welcome will be given by Ben G. Elliott, Chairman, Department of Mechanical Engineering, University of Wisconsin. J. W. McAfee, President, Edison Assn. of Illuminating Companies, will speak on the subject, "Can Socialism Produce for the U.S.?" and he will be followed by Edward Falck, Director, Utilities Branch, National Security Resources Board, Washington, D. C., speaking on "Electric Power Supply and National Security."

A joint luncheon with the American Society of Mechanical Engineers will be held at 12:15 p.m., with W. H. Oldacre, Chairman, Chicago Section, A.S.M.E., presiding. The program for this luncheon has not been announced.

The afternoon program will be divided into technical sessions, two concurrent sessions at 2 p.m., and two at 3:30 p.m.

Modern Steam Generators, a symposium sponsored and arranged by the Power and Fuels Division, Chicago Section, A.S.M.E., will begin at 2 p.m. with R. B. Gutekunst as chairman. E. M. Powell, Design Engineer, Combustion Engineering-Superheater, Inc., New York, will speak on the "Evolution of Today's Central Station Boiler." Frank X. Gilg, Application Engineer, The Babcock and Wilcox Co., New York, will speak on "Present Developments in Boiler Design."

Another 2 p.m. session will be on *Power System Planning*, with E. W. Kimbark, Northwestern University, presiding. Speakers will be L. LeVesconte, Sargent & Lundy, Chicago, "Economic Factors in Transformer Application," and Paul H. Jaynes, Public Service Elec-

tric and Gas Co., Newark, New Jersey, "Cost of Supplying Electrical Losses."

Two technical sessions will run concurrently at 3:30 p.m.

M. P. Cleghorn, Iowa State College, will be chairman of a session entitled, *Feedwater Treatment No. 1*. Featured speakers and their subjects will be: Glen Hull, General Foreman, Utilities Division, Standard Oil Co. of Indiana, Whiting, Indiana, "Feedwater Treatment for the 100 Percent Makeup 1500 psi Boilers at Whiting, Indiana," and A. C. Elliott, Asst. Combustion Engineer, The Steel Company of Canada, Ltd., Hamilton, Canada, "Feedwater Conditioning at the Steel Co. of Canada, Ltd."

E. B. Kurtz, State University of Iowa, will be chairman of the other 3:30 p.m. session, on the subject, *Network Analyzers and Analog Computers*. W. B. Boast and J. D. Ryder, Professors of Electrical Engineering, Iowa State College, will discuss "A 10,000 cycles Network Analyzer." D. L. Whitehead, Central Station Engineer, Westinghouse Electric Corp., East Pittsburgh, Pa., will have as his subject, "The Anacom, The Analog Computer, Applied to Mechanical and Electrical Problems in Power Systems."

The program for Tuesday, April 19, will include two concurrent 9 a.m. meetings, general session at 10:30 a.m., luncheon at 12:15 p.m., concurrent sessions at 2 p.m., and again at 3:30 p.m., and dinner at 6:45 p.m.

A technical session at 9 a.m., on the subject, *Small Power Plants*, is being sponsored and arranged by the National Association of Power Engineers, and will have as its chairman, Clifton R. Harding, President, N.A.P.E. Speakers and their subjects are: Parker Moe, Consulting Engineer, Gates, Moe, Weiss & Tatentheim, Consulting Engineers, Milwaukee, "Design of Small Industrial Power Plants," and Carl E. Miller, Technical Advisor, Batelle Memorial Institute, Columbus, Ohio, "What Can A Small Plant Do About Fly Ash?"

Another 9 a.m. session will concern *Control Characteristics of Industrial Processes*. Chairman will be K. W.

Miller, Armour Research Foundation of Illinois Institute of Technology. First speaker will be Albert F. Sperry, President, Panellit Inc., Chicago, whose topic will be "Significance of the Process in Problems of Thermal and Flow Regulation." Following him will be Richard W. Jones, Associate Professor of Electrical Engineering, Northwestern Technological Institute, speaking on the subject, "Significance of Controller Dynamics in Electro-Mechanical Systems."

The entire group will convene again at 10:30 a.m. for a general session, with W. A. Lewis, Illinois Institute of Technology, as chairman. "Power Supply and Requirements in the United States" will be discussed by E. R. de Luccia, Chief, Bureau of Power, Federal Power Commission, Washington, D. C. "Present Status of Atomic Power" will be the subject of a speech by Dr. Norman Hilberry, Deputy Director, Argonne National Laboratory, Chicago.

A joint luncheon with the American Institute of Electrical Engineers will begin at 12:15 p.m. F. D. Troxel, Chairman, Chicago Section, A.I.E.E. will preside. Speaker will be T. G. LeClair, Assistant Chief Electrical Engineer, Commonwealth Edison Co., Chicago, and his subject will be: "Power Supply for a Large Metropolitan Area."

The technical sessions will begin again at 2 p.m. when two are scheduled.

A technical session on *Central Station Equipment*, led by Ben G. Elliott, University of Wisconsin, will feature W. Wiltmer, Engineer, Centrifugal Pump Dept., Allis Chalmers Manufacturing Co., Milwaukee, and C. W. Elston, Division Engineer, Steam Turbine Engineering Division, General Electric Co., Schenectady, N. Y. Mr. Wiltmer will speak on "Suction Intake Design for Vertical Circulating Pumps," and Mr. Elston on "Recent Developments in the Design of High Pressure, High Temperature Steam Turbines."

Another 2 p.m. technical session will be *Feedwater Treatment No. 2*, continuing a section started on Monday afternoon, and will be led by L. G. Miller, Michigan State College. Speakers will be Louis Wirth, Jr., Supervisor, Power Division Laboratory, The Dow Chemical Co., Midland, Michigan, and J. D. Yoder, Vice President, The Permutite Co., New

(Continued on Page 16)

Midwest Power Show

(Continued from Page 15)

York. Mr. Wirth will speak on "Water Treatment for the High Pressure Plant," and Mr. Yoder on "Removal of Silica from Boiler Feedwater."

Three technical sessions will run concurrently at 3:30 p.m., covering distribution systems, central station operation, and maintenance problems of small plants.

Distribution Systems, a session sponsored and arranged by the Power Group, Chicago Section, A.I.E.E., will be led by E. T. B. Gross, who is chairman of the A.I.E.E. group. Speakers and their subjects will be: E. Herzog, Electrical Engineer, Army Air Forces, Wright Patterson Air Base, Dayton, Ohio, "Resonant Grounding of Distribution Systems," and William R. Waugh, Relay Engineer, Indianapolis Power and Light Company, Indianapolis, Ind., "A 33 kv Inter-Connected Sub Transmission System with the Development and Operation of 4 kw Networks."

Central Station Operation, with N. A. Parker, University of Illinois, as chairman, will feature two lectures, "Evaluation and Location of the Losses in a 60,000 kw Power Station," by C. Birnie, Jr., and E. F. Obert, Northwestern Technological Institute, Evanston, Ill., and "Purification of Water by Compression Distillation," by E. T. Erickson, Erickson Chemical Co., Chicago.

Maintenance Problems of Small Plants, led by J. W. Andeen, University of Minnesota, Speakers and their subjects will be: Leland J. Mamer, Chief Engineer, Evanston Hospital, Evanston, Ill., "Preventive Maintenance Program for Small Plants," and F. W. Hainer, Vice President, Clever-Brooks Co., Milwaukee, Wisconsin, "Maintenance of Package Boilers."

The program for the evening will begin at 6:45 p.m. An informal "All Engineers" Dinner, for the men and their women guests, will be held in the Grand Ball Room.

The program for Wednesday, April 20, will include three concurrent technical sessions at 9 a.m., three at 10:30 a.m., luncheon at 12:15 p.m., followed by three concurrent sessions at 2 p.m., and two at 3:30 p.m.

Heating and Air Conditioning, at 9 a.m., led by William Goodman, Illinois Institute of Technology, will feature G. L. Tuve, Head, Department of Mechanical Engineering, Case Institute of Technology, Cleveland, Ohio, "Room Air Distribution in Year Round Air Condi-

tioning," and Samuel R. Lewis, Samuel R. Lewis and Associates, Chicago, "Transmission of Heat by a Fluid Carrier."

Electricity in Farm Industry Comes of Age, at 9 a.m., will have as chairman, D. C. Ewing, Purdue University, and will concern "Electrifying Farm Productive Equipment," by J. H. Oliver, In Charge, Product Development, Farm Industry Division, General Electric Co., Schenectady, N. Y., and "Providing Adequate Service on Rural Power Systems," by R. F. Quinn, Manager, Line Apparatus Equipment, Agency Division, General Electric Co., Schenectady, N.Y.

Another 9 a.m. feature will be a *Symposium on Steam Contamination*, led by R. T. Hanlon, National Aluminate Corporation, Chicago. Featured talks and speakers will be:

"Carryover Types and the Effect of Design of Drum Internals Upon Steam Contamination," P. B. Place, Combustion Engineering-Superheater, Inc., Chattanooga, Tenn.

"The Problem of Silica Carryover in Boiler Steam, and of Turbine Blade Deposits," F. G. Straub, Research Professor of Chemical Engineering, University of Illinois, Urbana, Ill.

"Steam Contamination Experience on the American Gas and Electric Company's System," W. L. Webb, Mechanical Engineering Division, American Gas and Electric Service Corp., New York.

"High Speed Motion Picture Study of Steam Formation Phenomena," L. O. Gunderson and C. M. Bodach, Dearborn Chemical Co., Chicago.

"Diagnosis of Carryover Problems by Proper Plant Test Procedures," J. A. Holmes, Assistant Vice President, National Aluminate Corporation, Chicago.

Three concurrent sessions at 10:30 a.m. are scheduled as follows:

The Heat Pump, at 10:30 a.m., led by C. M. Burnam, Jr., President, Illinois Chapter, American Society of Heating and Ventilating Engineers. Featured talks and speakers will be:

"Some Aspects of the Soil Problem in Connection with Heat Pump Buried Coil Design," Donald M. Vestal, Jr., Project Supervisor, Reverse Cycle Heating Project, Texas A. & M. Research Foundation, College Station, Texas.

Controlling the Heat Pump, at 10:30 a.m., led by F. R. Ellenberger, Remote Equipment Engineering Division, Air Conditioning Department, General Electric Co., Bloomfield, N.J.

Industrial Applications, at 10:30 a.m., sponsored and arranged by the Indus-

trial Group, Chicago Section, American Institute of Electrical Engineers, will have at its chairman, T. A. Abbott, chairman of the Industrial Group. Subjects and speakers will be:

"Developments in Industrial Distribution Systems," H. B. Thacker, Central Station Engineer, Westinghouse Electric Corp., East Pittsburgh, Pa.

"Distribution Problems Caused by Resistance Welding Loads," H. Watson Tietze, Senior Engineer, Electric Distribution Dept., Public Service Electric and Gas Co., Newark, N.J.

In addition to the above two technical sessions beginning at 10:30 a.m., the *Symposium on Steam Contamination*, beginning at 9 a.m., will continue through the 10:30 a.m. period.

A joint luncheon with the Western Society of Engineers, led by L. G. Grinter, Chairman, Civic Committee, WSE will begin at 12:15 p.m. This luncheon is being sponsored and arranged by the Civic Committee.

R. A. Stipes, Jr., President, Illinois Chamber of Commerce, will speak on the subject, "Engineers Can Influence Civic Affairs."

Three technical sessions will begin at 2 p.m.

Feedwater Treatment No. 3, at 2 p.m., led by R. C. Porter, University of Michigan, will feature the following discussions:

"Problems Encountered in the Treatment of Cooling Tower Water for the Prevention of Incrustation and Corrosion," E. C. Hoshbush, Power Engineer, The Texas Co., Lockport, Ill.

"Problems in the Treatment of Cooling Water in Industrial Plants," L. D. Betz, General Manager, W. H. & L. D. Betz, Chemical Engineers, Philadelphia, Penn.

Diesel Power, at 2 p.m., led by W. P. Green, Illinois Institute of Technology, will feature:

"Two Cycle Dual Fuel Engines," L. D. Thompson, Superintendent, Experimental Division, Fairbanks Morse & Co., Beloit, Wisconsin.

"Dual Fuel Engine Design," George Steven, Executive Engineer, Worthington Pump and Machinery Co., Buffalo, N.Y.

"Dual Fuel Engine Performance and Economics," Ralph L. Boyer, Vice President and Chief Engineer, The Cooper, Bessemer Corp., Mt. Vernon, Ohio.

Electrical Sales, at 2 p.m., led by R. G. Raymond, General Sales Manager, Commonwealth Edison Co., Chicago.

(Continued on Page 23)

Grievances — Cause, Effect, Disposition

Donald V. Steger,
Executive Secretary,
Western Society of Engineers

Recently, a friend said: "Something drastic should be done to stop these strikes, particularly when labor goons are permitted to wreck factories and intimidate workers who want to return to their jobs. Apparently the Taft-Hartley Act is inadequate."

I agreed that the actions of labor goons were certainly illegal and should be punishable under existing criminal statutes.

After considerable discussion, I asked him what was the inducement that made workers want to return to work, assuming the employees were not strike breakers. He was a bit uncertain in his observations, so I hastened to present the idea that one of the essential troubles between employees and management is the unsettled grievance.

In my previous experiences as a professional consultant in the field of Industrial Relations Management, more slow-ups, "quickie" sit-downs and all-out strikes were caused by the brewing of real or imagined complaints in the worker's mind than from any other causes. The prompt settlement of grievances instills in the mind of the employee respect for management and makes him less pliable in the hands of labor goons, who use a minor grievance to build up a frenzy of mob violence for purely selfish motives.

Labor goons don't want to settle grievances, but the average decent union official advocates methods whereby grievances may be minimized.

So, when employees want to return to work, it must mean that the grievance or grievances have been satisfied by the company and the necessity of continuing a strike no longer exists.

What Are Employee Grievances?

Grievances are simply "beefs" or complaints on the part of employees (or a single worker) or on the part of a Union, if one represents the workers. Grievances may range from the dislike of the lighting system, a fellow em-

ployee, a foreman or the big boss all the way to the interpretation and application of company policies.

Complaints may involve the application and interpretation of a collective bargaining agreement, or the execution of oral or written promises, not within the scope of the contract. The entire course of collective bargaining may be run under the heading of "Grievance." Some company managements think grievances arise only from working conditions, but that is erroneous because every paragraph and section of the management-union contract is open for interpretation.

For example, Joe Adams has been a "B" Machinist for several years. He is finally offered a promotion to the job of "A" Machinist. He accepts the job but on pay day his rate is the same as before. He takes it up with his foreman who tells him he must perform as an "A" Machinist for 60 days. If he complains further about working for "B" Machinist pay, the foreman threatens discharge. So, a grievance is promptly a reality. Management is surprised when a strike hits them and it has had no facts about the complaint.

After several days of bitter struggle, man-hours lost, pay-roll losses and all the other losses, the foreman's ruling is finally brought to the attention of management, who promptly give Joe his "A" Machinist pay. The strike is broken and the employees go back to work. But it doesn't raise the foreman in Joe's respect and from that time on he has a tough time being a foreman. Eventually he is transferred.

Here's what really happened. The foreman had failed to interpret the 60 day probationary clause in the company-union agreement to apply only to new employees. He also applied that clause to promotions! Some contracts provide for probationary periods for promotable workers. This one didn't.

The foreman failed to inform his superiors of Joe's complaint before Joe got to his union representative.

Management failed to give the foreman proper instructions about the company-union contract, its interpretation and application.

Management failed to provide ways and means for a check-up on the actions of supervisors as well as a two-way channel to employees.

Effect Of Unsettled Grievances

The incidence of unsettled grievances is induced by the lack of some technique whereby complaints could be reviewed and solution found before serious trouble occurred.

Aside from strikes, slow-ups or sit-downs, a greater frequency of complaints in one department as opposed to the several departments may suggest a letdown in discipline or HUMAN RELATIONS between a supervisor and his employees. Management has the responsibility of observing such conditions closely.

Worker morale is always at its lowest ebb when grievances are left in a static condition instead of pursuing an aggressive solution.

This does not mean that management can or *should* concede its position every time a complaint is made. It certainly cannot change its policies for each complaint. However, explanatory procedures should satisfy the complaint in nearly every instance.

Time is of the element in settling grievances and an objective of seven working days should be sought in satisfying the complainant. Grievances which drag on and on invariably result in the disruption of work in one form or another.

By actual experience, grievances, for the most part, are imagined, unreasonable or out of proportion with the facts available. An employee who comes to work with a hang-over has no trouble in conjuring up imaginary ill-treatment from the foreman or fellow workers. The employee who demands an attendant at a company parking lot to prevent his

fenders from being nicked may have an unreasonable request. The newly-elected shop Steward is all out of line demanding a series of interpretations of company policies.

Disposition Of Grievances

A careful appraisal of serious grievances should be made by management at their inception. Minor complaints should be easily handled by supervision. The question as to the best method of informing management of the existence of a serious grievance and of minimizing the incidence of complaints deserves serious study. The application of any technique is dependent to some extent on the type of business, number of employees, whether or not a union represents employees, the current technique of furthering the employee-employer relation, etc.

WRITTEN GRIEVANCE PROCEDURE has experienced popular acceptance by management and employees alike. Not only does it have a decided effect on the frequency of complaints filed, but the procedure gives management a WRITTEN RECORD of all steps and causes of the complaint in the event of quasi-legal proceedings.

In every instance, I recommended to new clients that this technique should be a MUST in their Industrial Relations program. Usually there was found a high rate of complaints and time-consuming conferences to straighten them out. As soon as WRITTEN GRIEVANCE PROCEDURE was in practice, there was an upsurge in complaints for a week or two, and thereafter a surprising decline which remained at a low level of frequency.

Time and again, companies have been hailed before a National Labor Relations Board, a Conciliation Panel or an Arbitrator to face charges of unfair labor practices or refusal to bargain in good faith. With a WRITTEN RECORD management stands a better chance to protect the company's interest. Such a record is considered imperative in court procedures—why not in the field of labor relations?

Even if the complaint is not genuine and is later proved to be groundless, it is easier to appeal from the WRITTEN RECORD than from oral misinterpretations and testimony.

It is both appropriate and wise for management to seek ways and means for

improvement in all phases of its business. Certainly, personnel problems are a highly important responsibility, considering that the average gross dollar of American industry is sliced about 41% toward payrolls.

The following example of WRITTEN GRIEVANCE PROCEDURE has worked successfully in many companies employing from 100 to 5000 workers.

Obviously, this type of Grievance Procedure is not necessary in the case of the small unorganized company nor need it apply to white collar employees. However, some kind of regular interviews of employees should be established by management to determine if any grievances exist. In the larger unionized company, the WRITTEN GRIEVANCE PROCEDURE will save time and tempers.

The best explanation of the working of this technique is illustrated in the instructions to production workers covering the procedure. In addition to reproducing the instructions in the cover flap of the tablets of the forms, these should be posted on all bulletin boards read by the employees affected.

Instructions To All Production Workers

The officials of Local XYZ and the management of the Central Corporation have developed a form of WRITTEN GRIEVANCE PROCEDURE, the purpose of which is prompt handling and disposition of employee problems. There are five steps to be considered in the grievance procedure.

Following are the instructions for the use of the WRITTEN GRIEVANCE REPORTS. These instructions can also be found on the cover of the forms to be used which will be available to all employees and are located in all supervisor's offices.

Step 1.—Employee problems shall be referred initially by the department committeeman to the immediate supervisor concerned. In the event that the matter is not settled to the satisfaction of the employee and the union at this step, it shall constitute a grievance, BE REDUCED TO WRITING, numbered and approved by the proper union officials, and referred to Step 2, in an effort to settle the problem.

Copy distribution will be made as follows:

1. Original copy to the Industrial Relations department.
2. Duplicate copy to the superintendent of the department involved.
3. Triplicate copy to be retained by the union.

Step 2.—Between the department committeeman or shop steward and the department superintendent, with or without the employee being present, as he or she may elect.

If the grievance cannot be settled at step 2 within five working days, the union may then proceed to Step 3, upon proper written notification of appeal to the Industrial Relations department. Such appeal must be made within ten working days from the date of the final decision in Step 2.

Step 3.—Between officials of Local XYZ and the Industrial Relations Department, with or without the employee being present, as he or she may elect. The Industrial Relations department, within three days after receipt of the union's notice to appeal from Step 2, shall acknowledge receipt of the notice in writing and set a date to meet with union officials. The meeting will be held not later than ten days after receipt of the notice of appeal from the union unless an extension of time is mutually agreed upon.

Any grievance relating to the establishment or modification of a wage rate, or any problem involving general overall company policy must be referred immediately to Step 3.

In the event a grievance is not settled to the satisfaction of the employee and the union at Step 3, the problem may be appealed to Step 4 within ten working days from the date the decision is given in Step 3.

Step 4.—Between the officers of Local XYZ and appropriate officials of the company, such officials to be selected according to the character and importance of the problem.

The company will acknowledge the appeal of the problem to Step 4 and arrange, within ten working days from the date of the appeal, for a meeting with the proper company officials and officers of Local XYZ.

In the event that the problem remains unsettled upon conclusion of negotiations at Step 4, the matter may within thirty calendar days thereafter be submitted by either party to Step 5.

Step 5.—Arbitration as provided for in "Grievance Procedure and Article—of the Company-Union Collective Bargaining Contract."

Any problem not referred to the Board of Arbitration within thirty calendar days following conclusion of negotiations at Step 4 shall be considered as closed.

Grievances not appealed within the above mentioned time limits shall be deemed settled on the basis of the decision in the last Step to which the grievance is carried, and shall not be further appealed or filed as a new grievance unless new evidence is submitted or facts concerning the grievance have materially changed since the date of the last decision.

Check List

Important is the maintenance of a check list or analysis of Grievance Reports. This indicates the frequency of grievances; the status of pending problems; the effect on the Company-Union contract and the desirability of changes during future contractual negotiations; and keeps management abreast of the temper of the employees. Such a report should be kept on a weekly basis and include in its columns, Grievance Number, Date Filed, Article and Section of Contract, Nature of the Grievance, Status of Grievance as related to Steps 1 to 5, and Comments.

No Panacea

In smaller companies, where a fully staffed Industrial Relations department is not practicable, the procedures and steps can be modified for referral to the management representatives charged with personnel responsibilities. It is frequently advisable for a smaller company to retain a professional Industrial Relations Consultant to assist in the settlement of grievances at the top management level of appeal.

However, the mechanics of the application of the technique of the WRITTEN GRIEVANCE PROCEDURE is governed by the organizational structure of the company affected.

Whether the WRITTEN GRIEVANCE PROCEDURE will assist, in part, in the solution of troubled labor problems rests upon the character, attitude and HUMANISM of management.

There are dozens of other techniques involving the employer-employee rela-

CENTRAL CORPORATION GRIEVANCE REPORT and RECORD of PROCEEDINGS

Copy Distribution:

Original to Industrial Relations Dept.
Duplicate to Department Superintendent
Triplicate to the Union

NUMBER _____
DATE _____

NAME OF EMPLOYEE OR SUBJECT OF GRIEVANCE _____

DEPARTMENT _____ IMMEDIATE SUPERVISOR _____

JOB TITLE _____

DATE GRIEVANCE ORIGINATED (Step 1) _____

REPORTED TO WHOM _____

DESCRIPTION OF GRIEVANCE IN DETAIL (If more space is required, attach additional details to this report) _____

(Signed) For the Union _____

(Signed) Complainant _____

APPROVALS FOR EXTENSIONS OF TIME GRANTED

DATE	UNION	COMPANY
To _____	To _____	To _____
To _____	To _____	To _____

The foregoing is reproduced for the front page of the procedure. Note the extensions of time which are important to obtain IN WRITING. Following is a reproduction of the back of the page.

SETTLEMENT OF GRIEVANCE

Step 2. By Department Superintendent

Date Rec'd. _____
Date Settled _____

Disposition _____

(Signed) Department Supt. _____

Step 3. By Industrial Relations Dept.

Date Rec'd. _____
Date Settled _____

Disposition _____

(Signed) Industrial Relations Department _____

Step 4. By Company Officials

Date Rec'd. _____
Date Settled _____

Disposition _____

(Signed) Company Official Title _____

Step 5. By Arbitration

Date Rec'd. _____
Date Settled _____

Decision and Recommendations _____

(Attach Copy of Decision) _____

(Signed) Impartial Chairman _____

ADJUSTED SATISFACTORILY

(Signed) For the Union _____

Date _____

(Approved) For the Company _____

(Signed) Complainant _____

tion at the command of management, and many of these must be coordinated and in use to assure smooth sailing in Industrial Relations. The WRITTEN GRIEVANCE PROCEDURE is merely one of many tools management may

use to further better relations with workers. It is not a panacea, but it is a decidedly important adjunct to be considered in the organization of policies and practices relating to company employees.

CHICAGO TRANSIT AUTHORITY

ENDS FIRST YEAR OF OPERATION

Chicago Transit Authority ended its first full calendar year of local transit operations with a total of \$116,320 for modernization from earnings. This amount represents the first dollar equity acquired in the CTA system by its owner-riders.

The CTA's operating results for December, 1948, and the entire calendar year of 1948 were released for publication by Chicago Transit Board.

December's exceptionally favorable weather, CTA officials said, contributed materially to the year's favorable operating results. There was not a single storm during the month that necessitated heavy emergency expenditures to maintain local transit service.

The excess of \$116,320 over operating expenses and required reserves for 1948 went into the modernization fund. It was the first deposit from current earnings into this fund, although the Authority had previously deposited in this account a total of \$3,864,697 available for modernization purposes from funds obtained through the sale of its \$105,000,000 in bonds.

The 1949 modernization program, however, provides for the expenditure of \$26,500,000 for new equipment and facilities. It is estimated that cash available for the program from 1949 earnings and previous income will not exceed \$12,000,000. Therefore, the balance of \$14,500,000 will have to be obtained from private capital financing, as the Authority has no taxing powers.

Modernization Is Mandatory

Continued modernization of its local transit equipment, facilities and service is a mandatory obligation imposed upon the Authority by the Metropolitan Transit Authority Act and by the City Franchise ordinance. These improvements must be paid for solely out of present and future operating income.

Operating income of Chicago Transit Authority for 1948 totaled \$115,645,824. Operating and maintenance expenses were \$103,033,793.

Other requirements for the year, including deposits in reserve funds, all of

which were met, totaled \$12,495,711, divided as follows:

Interest Charges	\$3,816,250
Depreciation Requirements	6,210,015
Bond Reserve	1,284,000
Operating Expense Reserve	150,000
Municipal Compensation	
Reserves	1,035,446

As compensation for the use of city-owned subways and city streets, the Authority is obligated to pay to the City of Chicago, if earned, a fixed percentage of its gross operating income from operations within the City. Until 1952, this rate is one per cent, then it advances to three per cent.

During 1948, the CTA received and paid for 882 new, modern local transit units—372 motor buses, 298 streamlined streetcars, and 210 trolley buses, and 2 experimental L-subway cars, making a total of 1,714 new transit vehicles delivered and paid for since the Authority was organized in June, 1945.

The new equipment received in 1948 enabled the Authority to place modern, rubber-insulated or rubber-tired vehicles on more than 300 single way miles of streetcar routes, thereby improving service and materially reducing the noise level on these routes. Approximately 725 single way miles of surface routes are now equipped with modern, noise-proofed buses and streetcars, and more than 45 percent of the rides originating every weekday on CTA surface routes originate on new equipment.

The Authority also took positive steps during the year to modernize equipment on its rapid transit system by ordering for delivery starting in 1949, a fleet of 130 all-metal rapid transit cars, the first to be received in Chicago in twenty-five years. And to speed up service on its bus routes, the Authority has ordered and soon will receive and install electrically operated fare boxes on 1,000 buses.

Service betterments during 1948 included improved frequency and a higher standard of service on both the surface and rapid transit systems, and a substantial start on the inauguration of all-express service on the CTA's rapid tran-

sit routes. The first all-express rapid transit installation was made on the Lake St. branch, where riders are benefiting from a more frequent service, and a time saving of 10 minutes per trip for the average rider.

Consolidation of duplicate departments, inherited from the two predecessor companies, has progressed satisfactorily and with a resulting substantial economy in operating costs. This phase of the modernization will be completed in 1949. Accounting and auditing procedures have been revised to reduce costs, and to produce a greater measure of auditing control. Purchasing procedures have been revised and all purchases are on a competitive bid basis, as required by law.

Many Objectives Remain

What the CTA has accomplished between Oct. 1, 1947, when it began operations, and Jan. 1, 1949, represents a good start on a big job, but there is yet much to be done before the objective of providing Chicago with the best local transportation in the nation is achieved by Chicago Transit Authority. Factors which can affect favorably or adversely the financial results of 1949 operations are economic and industrial developments, nationally and locally, and the resultant riding trends; the effect of progress in modernization upon holding and attracting more riders; the benefits which may be expected from the new traffic regulations and procedures which the City is putting into effect; and the uncertainty of future costs of materials, equipment and labor.

VERNE E. ALDEN COMPANY

ENGINEERS

120 S. LaSalle Street

Engineering Investigation
Engineering Design

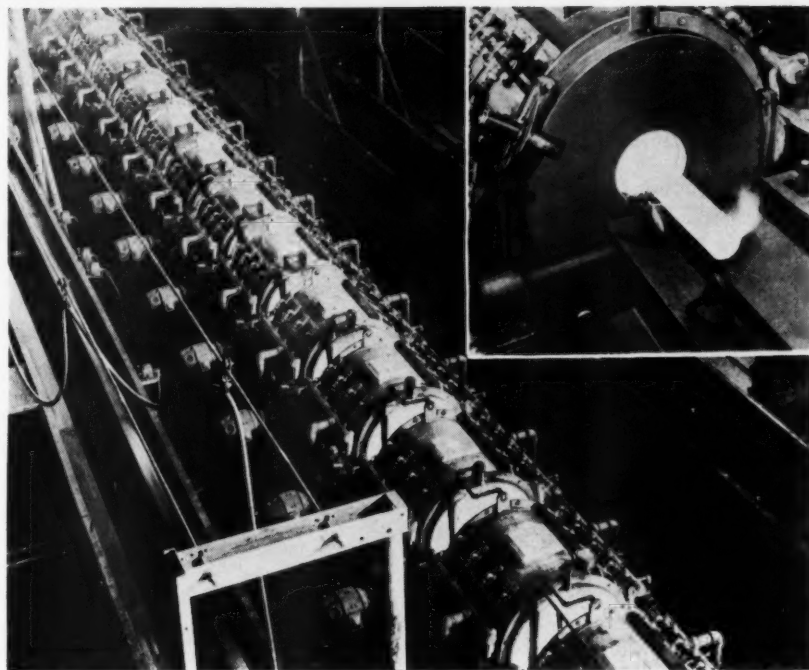
New Doughnut-shaped Furnaces Heat Steel Tubes for Rolling

An even baker's dozen of new doughnut-shaped furnaces have been installed in National Tube Company's mill at Gary, Ind., to heat pierced seamless steel tubes to high enough temperature so they can be rolled to specified size. Tube sections fly through the holes of the thirteen doughnuts as fast as 240 feet a minute, emerging at the end, ready for rolling, at a lemon yellow temperature of 1800 degrees Fahrenheit.

This type of reheating furnace was selected by research engineers of United States Steel's pipe-making subsidiary because it offers a maximum control of temperature, the 1800-degree objective being essential for good operation. Temperature control is exercised in two ways, by adjusting the temperature of each succeeding furnace unit and by the speed or delay of transit of tube sections through the units.

Lined with heat-resistant refractory material and fed by gas premixed with air in special generators, the furnace units stand about a foot apart in six groups, their circular openings in a continuous row, like thirteen doughnuts in a baker's box. The hole in each "doughnut" is approximately 1½ feet in diameter and 3½ feet thick. Roller conveyors between the furnaces bring up each tube separately, whisking it through the heating chamber to the next conveyor.

Twenty heat recorders, called "pyrometers," which measure temperature by radiation, regulate each furnace unit at its fuel supply, the pyrometer of each unit adjusting the temperature in the next to build up the required final temperature. At the same time a series of electric eyes regulate the speed of the tube's transit through the groups of furnaces by regulating the conveyor speed, providing a longer heating period when needed or shortening it if the tube is already very hot. Thus a tube that has cooled to a dull red after leaving the piercing mill before entering the "doughnut" furnaces can be carried at as low a speed as 15 feet a minute or, if its temperature is already in the cherry red, full red or orange color range, speed it through at more than 240 feet a minute. Since each tube sec-



FROM DEEP RED TO LEMON YELLOW is the heat-color range through which unfinished seamless steel tubing passes in the line of 13 "doughnut" reheating furnaces at National Tube Company's Gary, Ind., mill. Speed of steel through the line is adjustable. Electric eyes (note cylindrical gadget focused on heated tube in inset photograph) adjust temperature automatically at each unit. Thus final temperature is exactly right for truing pipe to the size desired by this United States Steel Corporation subsidiary.

tion must be uniformly heated from end to end, tube length also becomes a factor in furnace control.

These furnaces are constructed to accommodate tubes up to 45 feet long and 3 to 9 inches outside diameter. They are designed to heat for final sizing all types of alloy, stainless and carbon steel specialty tubing (both mechanical and pressure). This type of product finds

wide use in the dairy and chemical industries, in aircraft of all kinds, in ball and roller bearing races, industrial conveyor rolls and petroleum still tubes.

The doughnut-type furnaces are used in conjunction with a huge rotary billet heating furnace and represent a major part of the modernization and rebuilding program recently completed at the Gary mill.

Railway Orders New Diesels

New equipment orders involving a cost of approximately \$9,300,000 have been placed by the Chicago and North Western Railway Company for the purchase of forty-three 1500-horsepower Diesel freight locomotive units and eleven other Diesels of various types, R. L. Williams, president of the railway company, announced today.

Orders for the purchase of forty-three Diesel freight locomotive units, consisting of thirty "A" units and thirteen "B" units, have been placed with the Electro-Motive Division of General Motors Corporation, LaGrange, Illinois. Orders for

the Diesel switchers are as follows:

Five 1500-horsepower Diesel road switchers, Baldwin Locomotive Works, Philadelphia.

Four 1000-horsepower Diesel yard switchers, Fairbanks, Morse & Company, Beloit, Wisconsin.

Two 2000-horsepower Diesel hump yard switchers, Electro-Motive Division, General Motors Corporation, LaGrange, Illinois.

The orders are part of the railway's 1949 program for capital improvements and acquisition of new equipment totaling \$48,480,000.

Annual International Technical Congress To Convene in Cairo

International exchange of technical "know-how", advocated by President Truman in his inaugural address, will receive strong support from an American at the Second International Technical Congress to be held in Cairo, Egypt, March 20-26. He is James S. Thompson, vice chairman of the board, McGraw-Hill Book Company, Inc., author of a paper, "Technical Literature, Its Responsibility As An International Influence," to be delivered before the World Engineering Conference which is holding the Congress.

In his address, appearing in the current issue of "Mechanical Engineering," monthly publication of The American Society of Mechanical Engineers, Mr. Thompson points to the exchange of technical information without any ideological connotation, as a "dynamic vehicle in knitting together all peoples of this war-weary world." Postwar interest in engineering, education, science, industrialization, and in the interchange of information generally, has been continuously sustained on an international level, states Mr. Thompson.

This has thrown the spotlight on all those responsible for the dissemination of technical literature and presented practical problems to publishers who wish to co-operate fully with plans now under discussion by the United Nations Educational, Scientific and Cultural Organization and other international bodies, he declares.

Theme of the Congress is, "Raw Materials as an Industrial and Social Problem." It will convene as President Truman's new economic aid program, calling for participating countries to unite in a global campaign to raise the levels of production and standards of living in underdeveloped regions, is be-

ing considered by the United Nations Economic and Social Council.

Discussion at the Cairo Congress will be divided into three sections: industrial raw materials and their rational utilization throughout the world, social aspects of technical development and of raw material problems, and the problem of water in the Middle East.

A post-war era of constantly changing techniques, new developments in science and engineering, freshly defined requirements in training of personnel for increased productivity, and rapidly spreading demands for global circulation of the new techniques in engineering, Mr. Thompson says, present new responsibilities to the publisher.

"Following World War II, export of United States technical literature has far surpassed records of pre-war years," he states. "One publisher reports that his export sales for 1947 were eight times those before the war."

Mr. Thompson believes the U. S. Army's orientation program offers spectacular evidence of the place of translated technical literature in rehabilitating a war-ruined country. He will tell the Congress that active, practicing American engineers speaking the universal language of technology represent our point of view wherever they are.

American participation in the Congress is organized through the medium of the Committee on International Relations of the Engineers Joint Council, a joint committee of The American Society of Mechanical Engineers, American Society of Civil Engineers, American Institute of Chemical Engineers, American Institute of Electrical Engineers, and American Institute of Mining and Metallurgical Engineers.

ARCHITECTS TOLD COOPERATION WITH INDUSTRY A MUST

Construction and architecture, and the numerous industries associated with them, must collaborate in a new type of research on the advances of science in order to improve their contribution to society, Douglas William Orr, president of the American Institute of Architects, told the 30th Anniversary Convention of the Associated General Contractors of America at the Waldorf-Astoria, New York, on Thursday, March 1.

"At this time, when need has never been greater, what is required of all is not a policy of containment, each in his own little cubicle, but a policy of expansion, broader thinking, deeper analysis, more imagination, more comprehensive knowledge of one another's problems, and greater coordination," Mr. Orr said.

Although much fundamental and applied research is going on in laboratories and centers of learning, and the Institute of Architects endeavors to digest and correlate the findings of all these sources, there is insufficient research under way to discover means and methods of coordinating the various parts of the industry and providing better communication within the industry, he said.

Joint Study Should Be Set Up

Under a study set up and directed by the Joint A.I.A.-A.G.C. Committee the whole subject of construction means and methods should be re-examined, the architect said. "Contractors, manufacturers, and all elements of the industry must become design conscious; the design profession must become structure conscious."

Mr. Orr suggested that the collaborative effort should have joint conferences on a regional basis, exchange of published material, joint chapter meetings, and consideration of reorganizing building congresses.

"Although the knowledge possessed by the contracting, architectural and engineering professions is immeasurable, and present opportunities are limitless," he concluded, "there must be dogged determination to develop better solutions for our problems, unflagging zeal in searching for ways and means, not only on the part of individuals but in joint effort."

DE LEUW, CATHAR & COMPANY

Consulting Engineers

Transportation, Public Transit and Traffic Problems

Industrial Plants	Grade Separations
Railroads	Expressways
Subways	Tunnels
Power Plants	Municipal Works

150 N. WACKER DRIVE, CHICAGO 6, ILL.

J. L. McConnell & Associates

ENGINEERS — ARCHITECTS

53 W. Jackson Blvd.

Chicago 4, Illinois

Midwest Power Show

(Continued from Page 16)

"Television," Fred Compton, General Sales Manager, Detroit Edison Company, Detroit, Michigan.

"Promotional Sales Plans for 1949 of The Commercial Section of the Edison Electric Institute," Harry Restofski, General Sales Manager, West Penn Power Co., Pittsburgh, Pa.

Two final technical sessions will be held at 3:30 p.m.

Gas Turbines, at 3:30 p.m., led by J. T. Rettaliata, Illinois Institute of Technology, will feature:

"Some of the Problems Involved in the Coal Burning Gas Turbine Locomotive," C. K. Steins, Mechanical Engineer, Pennsylvania Railroad.

"Design of a Locomotive Gas Turbine," W. B. Tucker, Turbo-Power Development, Allis-Chalmers Manufacturing Co., Milwaukee, Wis.

"Water Spray Injection of an Axial Flow Compressor," J. T. Wetzel, Lecturer in Mechanical Engineering and B. H. Jennings, Professor and Chairman of the Department of Mechanical Engineering, Northwestern Technological Institute.

Electronics Applications, at 3:30 p.m., led by A. H. Wing, Chairman, Electronics Group, Chicago Section, American Institute of Electrical Engineers, and sponsored and arranged by that group, will feature:

"Electronics in the Public Utilities Field," W. M. Kiefer, Commonwealth Edison Co., Chicago.

"Electronics in Industry," G. M. Chute, Application Engineer, General Electric Co., Detroit, Mich.

The nine professional organizations cooperating in the Midwest Power Conference are: the Chicago sections of the American Institute of Chemical Engineers, American Institute of Electrical Engineers, American Institute of Min-



ing and Metallurgical Engineers, the American Society of Mechanical Engineers, the Illinois Section of American Society of Civil Engineers, the Illinois Chapter of American Society of Heating and Ventilating Engineers, the Western Society of Engineers, the Engineers' Society of Milwaukee, the National Association of Power Engineers.

The nine universities cooperating are: Iowa State College, Michigan State College, Northwestern University, Purdue University, State University of Iowa, University of Illinois, University of Michigan, University of Minnesota, University of Wisconsin.

The Chicago Bridge and Iron Company, Chicago, Illinois, announces a new 4-page leaflet describing the Vapordome Roof, which is installed on flat-bottom oil storage tanks to prevent evaporation losses caused by daily breathing. A flexible membrane in the dome at the center of the roof moves up and down as vapor in the tank expands and contracts due to temperature changes. This prevents daily loss of vapor through the vents. A table showing the standard Vapordome Roof sizes is included in the leaflet which can be obtained on request from Chicago Bridge & Iron Company, 332 South Michigan Avenue, Chicago 4, Illinois.

Make Whiteprinter For Volume Work

A new large volume Whiteprinter has just been announced by the Charles Bruning Co. for use in engineering and business offices with a large volume of duplicating work. This machine reproduces anything drawn, typed, written or printed upon translucent mediums, at speeds up to 105 square feet per minute. Prints from post card size up to those 42" wide and any length are made on the same machine with equal ease.

This new Bruning Whiteprinter is called the Volumatic Model 93. It produces direct positive prints (black lines on white or tinted stocks) directly from the original drawing or document without intermediate steps.

No special training is needed to operate the Volumatic. The operator simply feeds the material to be duplicated into the machine. The rest is completely automatic.

The Volumatic is the first large volume machine to provide a built-in voltage transformer as standard equipment. It keeps the speed of the motors and the rated output of the lamp constant. This feature saves time, prevents print spoilage, assures longer lamp life, and uniform prints at all times.

Another important feature provides uniform development of prints, regardless of speed setting. The exposed print is fed automatically between developer rolls which apply developer solution to both sides of the paper simultaneously—as in a wringer. The speed of development is automatically coordinated with the printing speed of the machine. This feature assures properly developed flat prints at all times.

The Volumatic is easy to install. It requires no plumbing connections, ventilating ducts, or darkroom. It is self-contained, and can be moved on its casters wherever needed. All parts are easily accessible, and servicing is simple.

Full information about the Volumatic Model 93 and the work it does is given in Bulletin No. A-1053 recently published by the Charles Bruning Co., 4754 W. Montrose Ave., Chicago 41, Ill. A copy will be mailed without obligation if requested.

SARGENT & LUNDY

ENGINEERS

140 S. DEARBORN STREET

CHICAGO, ILLINOIS

THE HAINES COMPANY

Ventilation &
Air Conditioning Contractors

Sheet Metal Fabricators
— Welding —

1931 WEST LAKE STREET
CHICAGO 12, ILLINOIS
SE eley 3-2765

Highway Construction Down, Cost Up

Highway construction contract awards declined more than five per cent in 1948 while the cost of road projects increased during the same period, Charles M. Upham, engineer-director of the American Road Builders' Association, said today.

"Figures of the Public Roads Administration indicate that 10,206 awards covering 40,115 miles of highway construction were made during 1948, as compared to 10,825 awards for 44,918 miles of highway construction during 1947," Mr. Upham said.

"Due to increased costs of materials and labor, however, the total cost of the 1948 contract awards was \$1,165,379,000, or \$260,528,000 higher than the total of the 1947 awards—\$904,851,000," he added.

"The ARBA strongly urges highway departments to accelerate their highway construction programs during the coming year despite higher costs," the ARBA executive pointed out. "We must have full speed ahead in our highway program if we are to keep up with the additional traffic load which we anticipate our highways will carry in the next few years."

Distributors of perishable goods estimate that trucks haul half the perishables to market today, as compared with about 15 per cent of the total possible load in 1934. During the year of 1948 experts estimate that truck loadings increased 12 per cent, and there are indications that such loadings will continue to increase in the coming years.

Automobile registrations increased eight per cent last year over 1947, and truck and bus registrations were up 10 per cent for the same period. It is expected that registrations will increase about the same percentage this year.

Sign Contract for Construction of UN Secretariat Building

The contract between the United Nations and Fuller-Turner-Walsh-Slattery, Inc., for the construction of the Secretariat building at the permanent headquarters in Manhattan was signed at the present headquarters in Lake Success on January 28. This will be the first unit of the permanent headquarters.

The contract for \$23,809,573 includes also the foundations for the General Assembly and the meeting hall area containing the Council chambers and conference rooms. Excavation work on the site has been nearly completed.

The contract was signed by Secretary-General Trygve Lie on behalf of the United Nations and Lou R. Crandall, president of the corporation, and James Slattery, its secretary.

The corporation comprises four leading construction companies: the George A. Fuller Company, of which Mr. Crandall is president; Turner Construction Company, H. C. Turner, Jr., president; Walsh Construction Company, William Durkin, president; and Slattery Contracting Company, James Slattery, president.

Site of the permanent headquarters is a 17-acre tract of land bordering on the East River between Forty-second and Forty-eighth Streets. Most of the six-block site was donated by John D. Rockefeller, Jr.

Occupancy of the Secretariat building is scheduled for the fall of 1950. Delivery of the 13,000 tons of steel for the building will begin March 15. It is estimated that steel erection will be completed by October 1. Sinking of piers for the columns of the building has already begun.

In an interview after the signing of the contract, Mr. Crandall paid tribute to the vision and generosity of those

who made the site available. "We gladly accept the challenge and opportunity to construct this first unit of the permanent home of the United Nations," he said.

"This corporation will apply to the project the combined experience organization and abilities from its four member groups in order to complete the work as quickly as possible for the important purpose it must serve."

Among those present at the ceremony were: Wallace K. Harrison, director of planning for the headquarters; Byron Price, Assistant Secretary General, and A. H. Feller, director of the United Nations Legal Department.

Aluminum, Glass, Marble Facing

The Secretariat building will be faced entirely on the exterior with aluminum, glass and marble. The long, narrow building will be oriented north and south. The wide east-west facades will be surfaced with blocks of black colored glass and aluminum windows. This will give an over-all grid pattern. The narrow north-south ends of the building will be windowless and they will be faced with 2,000 tons of Vermont marble.

A special glass designed to absorb the heat and reduce solar radiation will be used in all 5,400 windows. The buildings will enclose 389,000 square feet (equal to twenty acres) accommodating office space, departmental conference rooms, corridors and restaurants. Official records and mail will be speedily handled by means of electric conveyors and pneumatic tubes.

In addition to eight glass enclosed bronze escalators on the lower floors, 21 high speed elevators will service the building. Underground coils will carry a warm liquid to melt snow and ice on the miles of walks and roadways.

ESTABLISHED 1913

WALTER H. FLOOD & CO.

CHEMICAL ENGINEERS

Inspection and Testing
Of Materials and Structures
Buildings, Roads, Streets, Airports
SUPERVISION OF CONSTRUCTION
CONCRETE CORE CUTTING

6102 S. BLACKSTONE AVE. CHICAGO 37
Branch—1332-4 N. Westmedge Ave.
Kalamazoo 53, Mich.

BATTEY & CHILDS

ENGINEERS

231 So. LaSalle St. Chicago
BATTEY & KIPP INC. PAUL L. BATTEY
1922-1937 LEONARD C. CHILDS

Industrial Plants—Railroad Shops & Terminals
Power Plants—Design & Supervision

ANALYSES REPORTS APPRAISALS

BATES & ROGERS

CONSTRUCTION CORPORATION

600 W. Jackson Blvd.

CHICAGO 6

CIVIL ENGINEERS AND
GENERAL CONTRACTORS

WSE Applications

In accordance with the By-laws of the Western Society of Engineers, the following names of applicants are being submitted to the Admissions committee for examination as to their qualifications for admission to membership into the Society in the various grades, i.e., Student, Junior, Member, Associate, etc. All applicants must meet the highest standards of character and professionalism in order to qualify for

admission, and each member of the Society should be alert to his responsibility to assist the Admissions committee in establishing that these standards are met. Any member of the Society, therefore, who has information relative to the qualifications or fitness of any of the applicants listed below, should inform the Secretary's office, 84 E. Randolph St., RA ndolph 6—1736.

- | | | |
|---|--|--|
| 184-80 Charles A. Blessing; Director, Master Plan Division, Chicago Plan Commission, 10th Floor, City Hall. | 194-80 J. Kenny Johnson (Rein.), Structural Engineer, 520 N. Michigan Ave. | 205-80 Charles G. Rummel, Preliminary Planner, Naess and Murphy, 80 E. Jackson Blvd. |
| 185-80 Irwin P. Pochter, Fire Protection Engineer, Bartholomay & Clarkson, 175 N. Jackson Blvd. | 195-80 Walter L. Borgerding, 1400 E. 53rd St. | 206-80 Dennis J. Clynes, Partner, Bruce A. Gordon Co., 1 N. LaSalle St. |
| 186-80 Raymond L. Benson, Vice President, Ragnar Benson, Inc., 4744 W. Rice St. | 196-80 Sidney M. Hull, Research Librarian, Western Electric Co., Inc., 86 E. Randolph St. | 207-80 Hugh H. James, President, James, Schaeffer & Schimming, Inc., 228 N. LaSalle St. |
| 187-80 George R. Swanson, Partner, George Swanson & Son, 37 W. Van Buren St. | 197-80 Warren R. Gregory, 3300 S. Michigan Ave., attending Illinois Institute of Technology. | 208-80 Ronald S. Morris, 4845 W. Adams St., attending Illinois Institute of Technology. |
| 188-80 Albert R. Seskowski, 3951 S. Talman Ave., attending Illinois Institute of Technology. | 198-80 Robert Talman, 1332 S. Lawndale Ave., attending Illinois Institute of Technology. | 209-80 Richard Schwendeman, Vice President, Kralh Construction Co., 350 N. Clark St. |
| 189-80 Wilbert G. Kautz, 2521 Pensacola Ave., attending Illinois Institute of Technology. | 199-80 Oscar W. Dauber, Chief Mechanical & Electrical Engineer, Naess and Murphy, 80 E. Jackson Blvd. | 210-80 Joseph F. Vincent, 4014 Oak Ave., Brookfield, Ill., attending Illinois Institute of Technology. |
| 190-80 John A. Alexander, 6450 S. Normal Blvd., attending Illinois Institute of Technology. | 200-80 Thomas J. Mulig, Chief of Planning, Naess and Murphy, 80 E. Jackson Blvd. | 211-80 William N. Wentworth, 6119 Greenwood Ave., attending Illinois Institute of Technology. |
| 191-80 Frank J. Hradecky, Staff Engineer (Asst. to Chief Engr.), Open Hearth Combustion Co., 109 N. Wabash Ave. | 201-80 Charles F. Murphy, Partner, Naess and Murphy, 80 E. Jackson Blvd. | 212-80 Edwin G. Wichert, District Foreman, Commonwealth Edison Co., 72 W. Adams St. |
| 192-80 Walter M. Nesteruk, Sales Engineer, The Pyle National Co., 1367 W. 37th St. | 202-80 Sigurd E. Naess, Partner, Naess and Murphy, 80 E. Jackson Blvd. | 213-80 Joseph S. Busch (Trsf.), Chemical Engineer, U. S. Government, Camp Detrick, Frederick, Md. |
| 193-80 James N. DeSharton; Chief Draftsman, Chicago, Burlington & Quincy Railroad, 547 W. Jackson Blvd. | 203-80 Clifford P. Severns, Chief Supt. & Contract Manager, Naess and Murphy, 80 E. Jackson Blvd. | 214-80 Jack M. Schick, 10424 S. Calumet Ave., attending Illinois Institute of Technology. |
| | 204-80 Robert H. Clewlow, Assistant Traffic Engineer, Illinois Bell Telephone Co., 212 W. Washington St. | 215-80 Bernard H. Bradley, Architect and Designer, Holabird & Root & Burgee, 180 N. Wabash Ave. |
| | | 216-80 A. Wesley Newby, Partner, Newby & Peron, Inc., 59 E. Van Buren St. |

GREELEY AND HANSEN ENGINEERS

Samuel A. Greeley Kenneth V. Hill
Paul E. Langdon Samuel M. Clarke
Thomas M. Niles Paul Hansen (1920-1944)

Water Supply, Water Purification
Sewerage, Sewage Treatment
Flood Control, Drainage, Refuse Disposal

220 S. STATE STREET, CHICAGO 4

INDUSTRIAL
COMMERCIAL

INSTITUTIONAL
RESIDENTIAL

E. L. ARCHIBALD CO.

EST. 1916

GENERAL CONTRACTORS

Alterations - Additions

79 W. MONROE ST. CHICAGO 3, ILL.

FR anklin 2-0274
24 Hour Telephone Service

SAUERMAN BROS., Inc.

Engineers and Manufacturers

Slackline Cableway Excavators
Power Drag Scrapers

Scrapper Systems for Open Storage of
Coal and Bulk Materials

Tautline Conveying Cableways

522 S. Clinton St.

CHICAGO

Nominate Gustav Egloff for President

Nominations for Section Directors

Bridge and Structural Engineering Section

The Nominating Committee of the Bridge and Structural Engineering Section has nominated the following two Corporate Members as the regular ticket for Directors of the Section, for a term of three years beginning June 1, 1949.

Linton E. Grinter, Research Professor, Illinois Institute of Technology.

Gunni Jeppesen, Structural Engineer, Bureau of Engineering, City of Chicago.

Other Corporate Members may be nominated by petition signed by ten Corporate Members of the Society, provided acceptance of these nominees has been secured in writing.

The Directors will be elected at a meeting of the Section to be held *March 14, 1949*.

Gas, Fuels and Combustion Engineering Section

The Nominating Committee of the Gas, Fuels and Combustion Engineering Section has nominated the following two Corporate Members as the regular ticket for Directors of the Section, for a term of three years beginning June 1, 1949.

C. G. Bigelow, Sales Engineer, Freyn Engineering Co.

Thomas G. Robinson, President, Meters & Controls, Inc.

Other Corporate Members may be nominated by petition signed by ten Corporate Members of the Society, provided acceptance of these nominees has been secured in writing.

The Directors will be elected at a meeting of the Section to be held *April 11, 1949*.

Transportation Engineering Section

The Nominating Committee of the Transportation Engineering Section has nominated the following two Corporate Members as the regular ticket for Directors of the Section, for a term of three years beginning June 1, 1949.

Richard G. Fencl, Assistant Traffic Engineer, Chicago Park District.

Charles E. Keiser, Executive Assistant to General Manager, Chicago Transit Authority.

Other corporate members may be nominated by petition signed by ten Corporate Members of the Society, provided acceptance of these nominees has been secured in writing.

The Directors will be elected at a meeting of the Section to be held *April 25, 1949*.

Mechanical Engineering Section

The Nominating Committee of the Mechanical Engineering Section has nominated the following two Corporate Members as the regular ticket for Directors of the Section, for a term of three years beginning June 1, 1949.

George N. Simpson, Superintendent, United Conveyor Corp.

W. P. Strickland, Jr., Chief Mechanical Engineer, Simpson Optical Manufacturing Co.

Other corporate members may be nominated by petition signed by ten corporate members of the Society, provided acceptance of these nominees has been secured in writing.

The Directors will be elected at a meeting of the Section to be held *March 28, 1949*.

Traffic Engineering and City Planning Section

The Nominating Committee of the Traffic Engineering and City Planning Section has nominated the following two Corporate Members as the regular ticket for Directors of the Section, for a term of three years beginning June 1, 1949.

H. Evert Kincaid, Partner, Community Planners.

Walter E. Rasmus, Engineer of Design, Department of Subways and Superhighways.

Other corporate members may be nominated by petition signed by ten corporate members of the Society, provided acceptance of these nominees has been secured in writing.

GUSTAV EGLOFF has been nominated for president of the Western Society of Engineers for the term 1949-50. Other officers and trustees of the Society nominated on the regular ticket for the Society, as submitted to the Board of Direction on February 24, 1949, are: 1st Vice President.....H. P. Sedwick 2nd Vice President.....J. C. Witt Treasurer.....D. N. Becker Trustees for three years.....L. Skog L. F. Bernhard

The Nominating Committee, consisting of Herman M. Ross, A. P. Boysen, James D. Cunningham, J. L. Hecht, A. W. Howson, George L. Jackson and Fred T. Whiting also recommended the following members to serve on the Washington Award Commission for a three-year term.....V. O. McClurg J. T. Rettaliata

By complying with the Constitution (Article X, Section 5) any member or group of members may submit an additional nomination for any office provided in Section 4 of Article X, prior to the twentieth day of March. This form of nomination is known as a Ticket By Petition.

The Directors will be elected at a meeting of the Section to be held *April 18, 1949*.

Chemical and Metallurgical Engineering Section

The Nominating Committee of the Chemical and Metallurgical Engineering Section has nominated the following two Corporate Members as the regular ticket for Directors of the Section, for a term of three years beginning June 1, 1949.

Walter E. Ballinger, Engineer, Bucyrus-Erie Company, Monighan Division.

Otto Zmeskal, Director, Department of Metallurgical Engineering, Illinois Institute of Technology.

Other corporate members may be nominated by petition signed by ten corporate members of the Society, provided acceptance of these nominees has been secured in writing.

The Directors will be elected at a meeting of the Section to be held *April 11, 1949*.

NAME JOHN LUCIAN SAVAGE

To Receive Washington Award At Annual Dinner to Be Held April 20 in Furniture Club

The Washington Award for 1949 will be presented to John Lucian Savage at the annual Washington Award Dinner, April 20 in the Furniture Club of America. Further details will be announced in the April issue of **MIDWEST ENGINEER**.

John Lucian Savage, civil engineer, was born on a Wisconsin farm near Cooksville, December 25, 1879. He received his high school training at Madison; a B.S. in civil engineering in 1903 and a D.Sc. in 1934, both from the University of Wisconsin. He holds two other degrees: D.Sc., 1946, from the University of Denver, and D.Eng., 1947, University of Colorado.

At the present time, Mr. Savage is consulting engineer for the Tennessee Valley Authority and for the U. S. Bureau of Reclamation. From 1916 to 1945, he was designing engineer for the U. S. Bureau of Reclamation in charge of civil engineering design and later chief designing engineer in charge of all civil, electrical and mechanical design.

At the age of 24, Mr. Savage was employed by the U. S. Reclamation Service, Idaho division, on surveys, investigations, estimates, designs and construction of several dams in Idaho. After five years in this position, he became associated with A. J. Wiley, consulting engineer, of Boise, Idaho. From 1908 to 1916 he remained with A. J. Wiley, a position in which he might have amassed a large fortune had he continued as an independent consulting engineer. However, in 1916 he returned to the Reclamation Service.

He has received numerous awards in recognition of his contribution to the field of civil engineering, particularly

in the construction of hydraulic structures. Among these awards and recognitions are the Colorado Engineering Council's Gold Medal Award, Gold Medal Award of the National Resources Commission of China as a "Friend of China," John Fritz Medal Award, Henry C. Turner Gold Medal Award, and Vice President of the International Commission on Large Dams of World Power Conference.

It cannot be said that Mr. Savage's career has been startling in that it was headline material. Yet his achievements as such could well be just that. Undoubtedly no other individual has had the responsibility for more dams than Mr. Savage who has worked modestly and competently for over forty-five years on such developments as the Hoover (Boulder) dam and power plant, Shasta dam, All-American canal system in California, Continental Divide tunnel in Colorado, Norris and Wheeler dams in Tennessee under contract between the Bureau of Reclamation and Tennessee Valley Authority, and the Underground Fuel Storage project at Pearl Harbor for Contractors, Pacific Naval Air Base.

A rough estimate of the number of dams with which Mr. Savage has had direct identification probably would be around 300. And his projects have not been limited to the United States or to its provinces, but to approximately fifteen foreign countries, including Afghanistan, Australia, Canada, China, India, Mexico, Palestine, Spain, Switzerland and England.

The design specifications and construction cost estimates of the Yangtze river dam, one of the most unusual in the world, were prepared under the im-



John Lucian Savage

mediate charge of Mr. Savage. The dam is to be approximately 750 feet high, or 25 feet higher than Boulder, and it would control the flow of the Yangtze river the year round permitting the movement of 10,000-ton sea going ships between the Port of Shanghai and Chungking.

The Washington Award is being given to Mr. Savage for his unselfish public service devoted to the creation of monumental hydraulic structures utilizing natural resources.

Charles B. Burdick Louis R. Howson
Donald H. Maxwell

Alvord, Burdick & Howson

ENGINEERS FOR

Water Works, Water Purification, Flood Relief,
Sewerage, Sewage Disposal, Drainage,
Appraisals, Power Generation

20 N. Wacker Drive - Chicago 6

Telephone: CE ntral 6-9147

WM. E. SCHWEITZER & CO.

General Contractors

2207 Dodge Avenue

EVANSTON, ILLINOIS

AM 2-3489

GR 3-4414

★ ★ ★

**Contractors for Industrial
Construction**

TELEPHONES for construction

jobs, mines, oil wells, country homes,
estates, etc., for permanent or tem-
porary installations. Also wire, in-
sulators, ground rods, batteries and
other necessary equipment.

PROMPT DELIVERY

TELEPHONE REPAIR & SUPPLY CO.

Daniel H. McNulty, Manager

1760 LUNT AVE.

CHICAGO 26, ILL.

CHICAGO STEEL FOUNDRY CO.

3720 S. KEDZIE AVE.

CHICAGO 32, ILL.

PYRASTEEL

EVANSTEEL

For Heat and
Corrosion Resistant
Alloy Castings

For Shock and
Abrasion Resistant
Alloy Castings

Our Engineers Are Available for Consultation

WSE Calendar

Every Monday night is Western Society night at the new WSE headquarters, 84 E. Randolph Street. Members are urged to make it a must on their weekly schedules.

The meetings of all Sections and Divisions for the remainder of the year are as follows:

March 14	General meeting sponsored by Bridge and Structural Engineering and Transportation Engineering Section
March 21	Chemical and Metallurgical Engineering Section
March 28	Mechanical Engineering Section
April 4	Hydraulic, Sanitary and Municipal Engineering
April 7	Junior Division
April 11	General Meeting sponsored by Chemical and Metallurgical Engineering and Gas, Fuels and Combustion Engineering Sections
April 13	Professional Women's Council
April 18	Traffic Engineering and City Planning Section
April 25	Transportation Engineering Section
May 2	Fire Protection and Safety Engineering Section
May 9	Junior Division, General Social Meeting
May 11	Professional Women's Council
June 6	Annual Meeting

List of Advertisers

	Page
Verne E. Alden Company.....	20
Alvord, Burdick & Howson.....	27
E. L. Archibald & Company.....	25
Bates and Rogers Construction Corporation.....	24
Batthey & Childs.....	24
Burgess-Manning Company.....	30
Chicago Steel Foundry Co.....	27
DeLeuw, Cather and Company.....	22
Walter H. Flood & Co.....	24
Frey Engineering Company.....	8
Fulton Asphalt Company.....	14
Greeley & Hansen.....	25
E. R. Gritschke.....	14
The Haines Company.....	23
Robert W. Hunt Company.....	14
Industrial Equipment Co.....	Inside Back Cover
Lurie & Lurie.....	6
J. L. McConnell & Associates.....	22
National Survey Service, Incorporated.....	32
Page Engineering Company.....	11
Sargent & Lundy.....	23
Sauerman Brothers, Incorporated.....	25
Wm. E. Schweitzer & Company.....	27
Sommer Personnel System.....	6
South Side Consolidated Employment Agency.....	8
Telephone Repair & Supply Company.....	27
Valve and Primer.....	8
The Zack Company.....	11

ARE YOU INTERESTED IN REFRESHER COURSES?

The Western Society of Engineers, together with the American Society of Civil Engineers, American Society of Mechanical Engineers, American Institute of Electrical Engineers, and the American Institute of Mining and Metallurgical Engineers, is considering pre-examination refresher courses of approximately fifteen weeks duration for engineers qualified to apply for a license under the Illinois Professional Engineering Act, if there appears to be sufficient interest.

Other members of the engineering profession may desire to take such studies in order to refresh themselves on specific engineering subjects.

It is proposed that the best instructors available will design and teach the courses, which will receive the approval of leading engineers in the profession.

A nominal charge sufficient to cover necessary expenses will be made, and classes will probably be held in the new headquarters of Western Society of Engineers.

Professional engineers who are interested are asked to write to Donald V. Steger, Executive Secretary of Western Society of Engineers, 84 E. Randolph Street, Chicago.

Mr. Donald V. Steger
Executive Secretary
Western Society of Engineers
84 E. Randolph St.
Chicago, Illinois

Dear Sir:

I am interested in the pre-examination course for engineers. Please send me further information.

Name

Address

City

Graduate of

.....

Indoor Polo Games

Arrangements have been made whereby members of the Western Society of Engineers and their guests may obtain \$2.50 box seat tickets for 75 cents per person for the METROPOLITAN INDOOR POLO LEAGUE games played every Saturday evening at the 33rd CHICAGO AVENUE ARMORY, 234 E. Chicago Avenue.

Game time is 8 p.m. Inquire in the office of WSE if you are interested.



Western Society Meetings

Bridge and Structural and Transportation, March 14

J. P. H. Perry, vice president and director of the Turner Construction Company, will speak at a general meeting of the Society sponsored by the Bridge and Structural Engineering and Transportation Engineering Sections on March 14 at 7 p.m. His subject will be "Construction Cost Trends."

After graduation from Harvard with a S.B.C.E. cum laude, Mr. Perry spent about three years on railroad and municipal work and then joined the Turner Construction Company in 1906. He is a past director of the American Society of Civil Engineers and a former member of Western Society.

Bridge Excursion, March 12

Saturday, March 12, there will be a tour of the nearly-completed State Street Bridge sponsored by the Arrangements and Excursions committee. It is planned to meet at the east end of the bridge at 2 p.m.

This tour should be of special value to those engineers interested in structural engineering.

Chemical and Metallurgical March 21

Walton A. Rodger, Division of Chemical Engineering, Argonne National Laboratory, will speak before the CHEMICAL AND METALLURGICAL SECTION, March 21, at 7 p.m.

The speaker has chosen as his subject, "Nuclear Engineering." He will discuss the engineering problems to be solved before atomic energy can be led into constructive channels, and the application of radioactive isotopes to engineering research.

Mr. Rodger is the Senior Chemical Engineer in the Argonne National Laboratory's Division of Chemical Engineering as Assistant to the Director.

Mr. Rodger joined the staff of the Metallurgical Laboratory (predecessor of the Argonne National Laboratory) in October, 1942. From 1943 to 1947, he was a member of the staff of the Clinton Laboratories at Oak Ridge, Tennessee. He returned to the Argonne National Laboratory in 1947.

Mr. Rodger attended the University of Michigan and received the following academic degrees from that institution: Bachelor of Science in Chemical Engineering, Bachelor of Science in Metallurgical Engineering, and Master of Science in Chemical Engineering. It is to be noted that Mr. Rodger was a staff member at the Metallurgical Laboratory before the self-sustaining and controlled nuclear chain reaction was achieved on December 2nd, 1942.

Mechanical, March 28

Richard W. Jones, Associate Professor of Electrical Engineering, Northwestern Technological Institute, will talk before the Mechanical Section of Western Society March 28 at 7 p.m.

His subject will be "Feedback—A Fundamental Tool," a discussion of the success of regulators and servomechanisms arising from their use of the feedback principle, which gives to these systems the ability of responding to their environment.

As Mr. Jones will explain to his audience, "the concept of feedback is by no means limited to electrical circuits, but is equally applicable to a wide variety of mechanisms and organizations. The addition of feedback profoundly changes the behaviour of any device, and it acquires the ability of resisting changes in its surroundings in a manner which is closely akin to that exhibited by a number of living organisms and organizations." The basic concepts of feedback will be developed, and some of the parallels between the feedback systems of engineering and the regulatory processes of physiology and business organizations will be described.

Mr. Jones was graduated from the University of Minnesota in 1926 and spent the following year on the graduate student course of the Westinghouse Electric Corp.

From 1927 to 1937 he was a design and development engineer, first with the Control Engineering Department of Westinghouse Electric Elevator Company. In 1937 he joined the staff of the Central Y.M.C.A. College as Assistant Professor of Engineering Science, and in 1942 was appointed to the staff of Northwestern University.

He is a member of the A.I.E.E. and is serving on the Industrial Control Committee and the Joint Subcommittee on Servomechanisms. He is also a member of the American Physical Society and the Instrument Society of America.

Hydraulic, Sanitary, Municipal April 4

The HYDRAULIC, SANITARY AND MUNICIPAL ENGINEERING SECTION will sponsor a meeting of the Society, April 4, at 7 p.m.

The program has not been announced.

Junior Division, April 7

Members of the Junior Division will meet at WSE Headquarters April 7.

The program has not been announced.

Book Reviews

On Subjects of Interest to Engineers

Light Metals in Structural Engineering

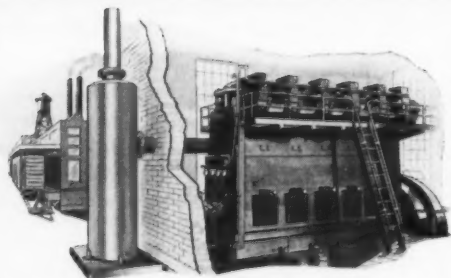
by L. Dudley. Published for Temple Press, Ltd., Bowling Green, London, in 1947. 216 pp., \$6.50

In this book, by a British author, the first ten chapters cover the subject of strength of materials, and develop the usual formulae as applied to the design of simple beams, columns, joints, and tubes. The subject of torsion is also treated.

Two chapters are then devoted to the nature and properties of the light metals, aluminum and magnesium and their alloys. A comparison between these metals and other structural materials is given.

An appendix gives tables of properties of the light metals, and the properties of aluminum structural sections, including angles, channels, beams and tees. Other tables give standard specifications of the British Aluminum Co. Ltd. for aluminum alloys for various uses.

H. F. W.
Member WSE



SNUB THE SLUG and STOP THE NOISE

Noise from engines, compressors, blowers, and vacuum pumps can be prevented by using Burgess-Manning Snubbers. The Snubber prevents noise by smoothing the intake air and dissipating the energy in the exhaust gas slugs, providing quiet operation without affecting performance.

The Burgess-Manning line consists of air intake and exhaust Snubbers and Combination Air Intake Cleaner-Snubbers for use on internal combustion engines, compressors, blowers, and vacuum pumps. For solution of your noise problems, consult the Burgess-Manning Engineers.

BURGESS-MANNING COMPANY
749-W East Park Avenue, Libertyville, Illinois

Scale Models in Hydraulic Engineering

by J. Allen. Published by Longmans Green and Co. Inc., New York, 1947. 407 pp., \$7.25

This book, by a British author, deals with scale models which are used in the study and design of hydraulic structures.

The first chapter develops mathematically the theory of dimensions and similitude, by means of which the behavior of full-size structures is predicted from tests made on small-scale models. Descriptions and analyses are given for models and tests of spillways, sluice gates, non-tidal and tidal rivers, estuaries, dams, filters, and tide-generating mechanisms.

A study is made of the influence of structures such as bridges, dams, etc., upon the behavior of rivers, canals and estuaries.

One chapter describes the construction of river models. In addition to numerous maps and diagrams there are 35 photo plates of various models and apparatus, many of them in the United States.

This is a valuable reference book for hydraulic engineers of all countries.

H. F. W.
Member WSE

Advanced Mechanics of Materials

by Glenn Murphy. Published by McGraw-Hill Book Co. Inc., New York, 1946. 307 pp., \$4.00

This is a textbook for graduate or advanced undergraduate students and requires a working knowledge of mathematics through integral calculus.

The topics covered include the relationships among stresses and strains at a point; theories of failure; axial loading; stress concentrations; thick walled cylinders; torsion of circular and non-circular sections; unsymmetrical bending; shear center; stresses near concentrated loads; and buckling of panels, sheets, and thin-walled members.

The uses of geometry, statics, and properties of the materials in investigating new problems are demonstrated in a masterly manner. Many problems are given at the end of each chapter, and answers to a few of them are given at the end of the book.

H. F. W.
Member WSE

Engineering Societies Personnel Service

84 East Randolph St., Chicago 1, Ill., ST ate 2—2748

These items are from information furnished by the Engineering Societies Personnel Service, Inc., Chicago. This SERVICE, operated on a co-operative, non-profit basis, is sponsored by the Western Society of Engineers and the national societies of Civil, Electrical, Mechanical and Mining and Metallurgical Engineers. Apply to ESPS, Chicago and the key number indicated, including postage to cover forwarding and return of application. If placed in a position as a result of a Men Available or Position Available advertisement, applicants agree to pay the established placement fee. These rates are available on request and are sufficient to maintain an effective non-profit personnel service. Prepared MEN AVAILABLE advertisements limited to 35 words, with typed resume attached may be submitted to ESPS Chicago by members of Western Society of Engineers at no charge. A weekly bulletin of positions open is available to subscribers. Apply ESPS Chicago.

MEN AVAILABLE

Designer-development. Mechanical, extensive experience in furnaces and combustion, zinc-rolling industry, bakery equipment and other machines. Any U. S. location. 46-W

Chief or plant engineer, M.S. mechanical engineer, 40. Petroleum products or metal working, 7½ years' experience industrial and petroleum, 7 years' Associate Professor, mechanical engineering laboratory, shop, training and teaching. \$7000. Central S. W. 47-W

Metallurgist-professor. 9 years' experience mining and metallurgy, 22 years' Associate Professor, metallurgy laboratory, field, teaching. \$5000. Texas area. 48-W

Professor, mechanical, 27 M.S. 2 years' teaching m.e., 4 years' industrial and commercial experience. \$4000. Anywhere in U. S. 49-W

Design-development, m.e., 36, 7½ years' jigs, fixtures, tooling, machines and completing for production. 4 years' practical sheet steel plant operation. \$6000. Chicago area. 50-W

Structural engineer, arch. engineer, 40, 18 years' civil and structural for consultants, field construction, industrials and public. \$7000. Midwest—Chicago. 51-W

Structural engineer, c.e., 34, 7 years' experience bridges, mill buildings and machinery foundations, industrial buildings, bulkheads, concrete and earth for engineers, industry and public. \$6000. Midwest. 52-W

Structural designer and engineer, m.s., c.e., 38, 14 years' experience refineries, railway, bridges, highway, buildings, dams for engineers, industry, utility and public in field and office. Any U. S. 53-W

Product design-development, m.e., 37, 18 years' experience farm mach., tractors, derricks, road machines for manufacturers. Chicago. \$7000. 54-W

Design—layout—drafting—m.e., 39, 13 years' experience Diesels, cranes, foundry equipment, steel mill equipment and

plants for engineers, industry and manufacturers. \$6000 for permanent Chicago position in industrial. 55-W

Architectural drafting, female, 25, 6 years' experience drafting floor and foundation plans, elevations, sections, calculate footings, grades, slopes, etc. \$3600. 56-W

Structural draftsman, c.e., plus structures, extensive experience concrete roofing, industrial buildings, airport, railroad structures, military for engineers, industry, utility, public in field and office. Chicago. \$5000. 57-W

Soil engineer, c.e., 36, 14 years' experience highway construction, soil investigations, sub-grade on design, research and consulting. \$5000. Any U. S. 58-W

Factory, plant managers or superintendents, 10-30 yrs. exp., line and staff, complete operation, light, medium, heavy production of equipment, machinery, products and materials; methods, process, maintenance, planning, scheduling, control, layout, tooling, management and industrial engineering. \$6000-\$15000. 59-W

Chief project and product engineers, 5-25 yrs. exp., complete engineering and shop operation, design, develop, research, test and produce light-heavy machinery, materials, equipment & products; controls, schedules, plans, tool, manager. \$5500-\$10000. 60-W

Production engineers, 2-20 yrs. exp., shop or plant plan, schedule, control and layout, light-heavy manufacturing, and processing of machines, products, devices and equipment. \$3600-\$5500. 61-W

Designers, draftsmen, detailers, checkers, (mech., civil, elect., mining) recent grad.—30 yrs. exp.; consultants, constructors, industrials, on structures, equipment, devices, machines and supplies. \$3000-\$8500. 62-W

Construction superintendent, project engineer, 5-35 yrs. exp., construction heavy, medium and light, industrial, commercial, airfield, pipe line, power house, utilities, water front. \$5000-\$12000. 63-W

POSITIONS AVAILABLE

Design detail, drafting: electrical, civil, mechanical, \$3000-\$8000.

Estimators, electrical and structural. \$3900-\$5720.

Specification writers, \$4700-\$6500.

Construction superintendent and engineer, \$3200-\$7200.

Junior construction engineer, \$3200-\$5000.

Industrial and time study, \$3000-\$7400. Factory manager and superintendent, \$6000-\$15000.

Chief engineer, \$4700-\$12000.

Production \$3000-\$7500.

Maintenance, \$4700-\$10000.

Tool engineer, \$8000-\$12000.

Methods, process and product, \$6000-\$7000.

Research, development and test. \$3600-\$12000.

Installation, \$3600-\$7200.

Municipal engr., \$3300-\$4000.

Surveyor, \$3050-\$6000.

Sales engineer, \$3200-\$7200.

Chemist & physicist, \$3900-\$7200.

Metallurgist, \$3000-\$7200.

Geologist, assayer, mining and petroleum engr., \$2900-\$9200.

Welding and operating engr., \$3000-\$5750.

Professors, asst's., instructors, \$3000-\$6000.

Editors, \$3000-\$10000.

Safety, \$5000-\$7300.

Recent graduates, \$2700-\$3600

R-5494 Sales engineers, 2, heavy duty storage and warehousing eqpt., one Chicago, one Illinois. Must have car. Commission basis. Agency has leads.

R-5493 Chief engineer, graduate, responsible for product research, design and processing and tooling. Will direct staff 15-20 eng., report to gen'l. mgr., V.P. experienced in heavy domestic utility equipment, bath tubs, sinks, etc., for a manufacturer. Location, Philadelphia. Salary, \$12000-\$15000.

R-5492 Chemical engineer, graduate, 35-45, paints and plastics. 25-30% research. 5-6 men in laboratory, also advisory functions to production. Chicago, \$8000-\$10000.

R-5491 Assistant professors and instructors, (8) M.S. and B.S., respectively. Teach heat power, machine design, and machine shop practice. Salary, \$2700-\$4500, 9 months. Location, Chicago.

R-5490 Draftsman, jr., young, 1 yr. exp., high school plus some college work on mechanical eqpt., burner equipment and burner appliances. \$48-\$52 week. Location, Chicago.

Letters

TO THE EDITOR

FREYN ENGINEERING COMPANY

ENGINEERS AND CONTRACTORS

50 EAST WASHINGTON STREET

CHICAGO 2

Dear Mr. Steger:

Permit me, please, to express a word of commendation of the *MIDWEST ENGINEER*. It has not yet found itself, but it has indeed made a step forward.

As an experiment, I placed several copies of a recent issue on the table in our reception room. They disappeared like hot cakes. It seems to have reader interest.

A combination of semi-technical, semi-popular articles; factual stories about civic matters of technical nature, personal items, and formal engineering papers, should result in a readable, yet valuable publication.

The *MIDWEST ENGINEER* should prove an effective advertising medium for concerns serving the engineering, industrial and construction fields. Blue printers, purveyors of technical books and supplies, manufacturers of building items, pumps, conveyors, hoists, motors and other generally used equipment, can reach the cream of Chicago's engineering profession. Quite obviously, the potentialities in this direction are not yet generally appreciated.

Professional cards of foremost local engineering concerns testify to their interest in the *MIDWEST ENGINEER*.

Congratulations, and wishes for continued success.

Yours very truly,

FREYN ENGINEERING COMPANY

Gordon Fox, *Vice-President*

High School Course In Safety Sponsored By Steel Company

Safety in the classroom as a course for public and parochial schools was introduced by the Carnegie-Illinois Steel corporation, U. S. Steel subsidiary, at a dinner for Chicago and Lake County (Ind.) educators in the Palmer House Wednesday, February 23.

Herold C. Hunt, superintendent of Chicago schools, headed the Chicago representation at the dinner. Charles D. Lutz, superintendent of the Gary schools, headed a delegation of about 200 educators from the northwestern Indiana county.

Principal speaker at the dinner, attended by 350 school leaders, was E. E. Moore of Pittsburgh, industrial relations vice-president of Carnegie-Illinois. The toastmaster was James M. Darbaker, Chicago district operating manager of the company.

Narrator for the official presentation of the safety program was E. B. Mapel, supervisor of training and education for Carnegie-Illinois.

The steel corporation subsidiary company has developed a comprehensive course of instruction in classroom safety for high school students.

Invite Civil Engineers

The Society of Professional Civil Engineers of Mexico invites all civil engineering or similar societies to participate in its first "International Civil Engineering Congress" which will convene in Mexico City on April 30 and continue through May 7.

These sessions will be held in the Palace of Fine Arts of Mexico City and in the Auditorium of the Teachers School.

NATIONAL SURVEY SERVICE, INC.

S. PASQUINELLI, M.W.S.E.

REGISTERED LAND SURVEYOR

ILLINOIS & INDIANA

Precise Construction Surveys

Accurate Land Boundary Surveys

134 N. LaSalle St., Chicago, Ill.

RA ndolph 6-7609



Necrology

A. Waller Mason

A recent Member of the Society, A. Waller Mason, died on January 26 as a result of injuries received on January 24 when he was struck by an automobile in the Loop.

He was born in Morganfield, Ky., and after attending the local schools, was graduated from Notre Dame University with a B.S. degree in electrical engineering.

At the time of his death, Mr. Mason was Staff Research Engineer in the General Staff Engineering Department of Illinois Bell Telephone Co.

Philip Harrington

Chairman of the Chicago Transit Authority, Philip Harrington, died February 11. Mr. Harrington had been a Member of Western Society since 1919.

Mr. Harrington was educated in the Chicago public schools and was graduated from Armour Institute of Technology in 1906. He also was a graduate of Kent College of Law and was admitted to the Illinois bar in 1916.

In 1938, Mayor Kelly appointed him commissioner of subways and traction, a position created after the passing of the ordinance creating the new city subway department, which department supervised the construction of building the two rapid transit subways.

MIDWEST ENGINEER

invites

Readers

Advertisers

Agencies

Subscribers

to submit articles, features, and news items
for publication.

•

A semi-technical treatment of a subject of
interest to engineers and architects
is suitable for

•

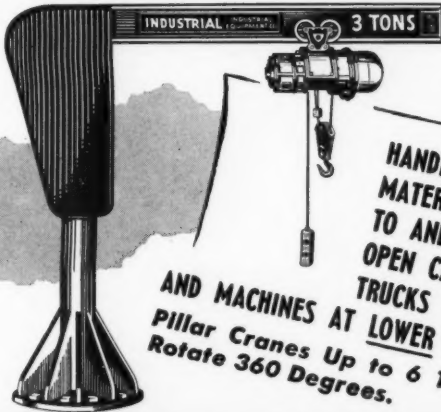
MIDWEST ENGINEER

A Publication of the Western Society of Engineers

84 E. Randolph St. :: Chicago 1, Illinois

Industrial CRANES

Improve Your Profit!



INDUSTRIAL EQUIPMENT CO. 3 TONS

HANDLE
MATERIAL
TO AND FROM
OPEN CARS
TRUCKS
AND MACHINES AT LOWER COST
Pillar Cranes Up to 6 Tons
Rotate 360 Degrees.

INDUSTRIAL EQUIPMENT CO.
339 NORTH ADA STREET CHICAGO 7, ILLINOIS
Write for Catalog. Representatives in Principal Cities.

HEADQUARTERS DEVELOPMENT FUND SUBSCRIPTION BLANK

THE WESTERN SOCIETY OF ENGINEERS

To the Development Committee: I desire to contribute the sum of \$ _____ toward the expense to be incurred in the development of the Western Society Headquarters, 84 East Randolph Street. My contribution will be:

☐ In full herewith.

☐ In installments as follows:

Signature

Date

\$ _____ on or before _____

Please make checks payable to

\$ _____ on or before _____

The Western Society of Engineers

Now Available

Attractive meeting rooms in the new Headquarters of Western Society of Engineers may be obtained by professional and technical organizations for meetings. Business organizations and advertising firms may also utilize the facilities for sales or display conferences. The large meeting room has a seating capacity of 193 persons. Comfortable theatre-type chairs, public address system, blackboard and motion picture equipment are some of the conveniences offered.

A smaller meeting room accommodating 100 persons is also located adjacent to the large room. Sliding doors may be opened to give a maximum seating capacity of 318 persons.

The comfortable lounge, as well as the dining room, are open from 11 A.M. to 10 P.M.

84 East Randolph Street is convenient to Illinois Central, "L," street car and bus transportation. There are adequate parking lots in the neighborhood.

FOR PARTICULARS CALL OR WRITE:

Donald V. Steger
Executive Secretary
Western Society of Engineers
84 E. Randolph Street
Chicago 1, Ill.
Phone: RA ndolph 6—1736

Engineering Societies Personnel Service, Inc.

(NON-PROFIT)

In Chicago

UNDER THE DIRECTION OF
WESTERN SOCIETY OF ENGINEERS
AMERICAN SOCIETY OF CIVIL ENGINEERS
AMERICAN SOCIETY OF MECHANICAL ENGINEERS
AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS
SOCIETY OF NAVAL ARCHITECTS AND MARINE ENGINEERS
AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS

Telephone ST ate 2—2748

84 East Randolph Street

Chicago 1, Illinois

MIDWEST ENGINEER



S E R V I N G T H E E N G I N E E R I N G P R O F E S S I O N

YEAR BOOK of the WESTERN SOCIETY OF ENGINEERS 1948 - 49

**Constitution
By-Laws
Awards
Board of Direction and Committees
Membership List
Geographical Distribution
Canons of Ethics for Engineers
Business Association of Members
Section Enrollment and Division Registration
Past and Present Officers and Trustees
Past and Present Honorary Members
Past Presidents
The Story of Our Seal**

Fabricators and Erectors of *Structural Steel*

• Statistics show the steel industry has facilities to fabricate and erect over two million tons of steel in 1949. America finds Allied ready with *three* fully equipped plants, operating under unified control, with abundant capacity to tackle a big share of the job. Here expert crews fabricate and erect bridges and buildings from the blueprint stage to finished structures. We invite you to consult Allied on any structural job that's pending . . . large or small. Send us your specifications for estimates.



Allied engineers adapt methods to the job, often employing water erection with floating equipment to shorten bridge-building hours.



Similar equipment in each of Allied's three plants speeded up fabrication of structurals for this giant industrial plant.



3250 Tons of steel were fabricated by Allied for this California highway bridge . . . erected according to Allied's precision method.

This membership list is issued for the personal use of members of The Western Society of Engineers in connection with Society and professional affairs. Each member is requested to comply and not permit his copy to be used as a basis of commercial circularization, since such use is annoying to fellow members.

"CHICAGO" EQUIPMENT FOR SEWAGE TREATMENT PLANTS

- "Package" Sewage Plants
- Chicago Wide-Band Air Diffusion Systems
- Mechanical Aerators
- Comminutors
- Flush-Kleen Sewage Lift Stations
- Samplers
- Raw Sewage Pumps
- Scru-Peller Sludge Pumps
- Plunger Sludge Pumps
- Water Seal Pumping Units
- Odeometer

CHICAGO PUMP COMPANY

SEWAGE EQUIPMENT DIVISION

2300 WOLFRAM STREET

CHICAGO 18, ILLINOIS

Electric Pumps: Circulating, Bilge, Scru-Peller,
Flush-Kleen, Plunger, Fire, House, Condensa-
tion, Vacuum,

Swing Diffusers, Stationary
Diffusers, Mechanical Aerators, Combination
Aerator-Clarifiers, Comminutors.

Phone BR unswick 8-4110

List of Advertisers

Abell-Howe Company.....	41	The Haines Company.....	19
Accurate Steel Treating Company.....	Inside Back Cover	Robert W. Hunt Company.....	25
Aetna Plywood & Veneer Company.....	30	Carl Hussmann, Incorporated.....	30
Allied Structural Steel Companies.....	Inside Front Cover	Industrial Designing Engineers Assoc.....	42
Alvord, Burdick and Howson.....	20	Inland Steel Company.....	30
American Bridge Company.....	37	Link-Belt Company.....	64
American Seal and Stamp Company.....	25	Wm. B. Lucke.....	39
Anning-Johnson Company.....	25	Lurie and Lurie.....	34
E. L. Archibald & Company.....	42	J. L. McConnell.....	18
L. Balkin Builder, Inc.....	51	McMillin Engineering Company.....	29
Bates & Rogers.....	19	Merrill and Company.....	24
Walter Bates Company.....	43	Mississippi Valley Structural Steel Co.....	Back Cover
Batley & Childs.....	25	Eugene Mittelman.....	46
S. E. Berkenblit.....	29	National Survey Service, Incorporated.....	24
Burgess-Manning Co.....	45	Pacific Flush Tank Company.....	35
Chicago Bridge and Iron Company.....	83	Page Engineering Company.....	22
Chicago Pump Company.....	2	Pierce Electric Company.....	33
Chicago Steel Foundry Company.....	26	Wm. A. Pope.....	51
Conveyor Systems, Inc.....	29	Frank A. Randall.....	39
Deckert Corporation.....	47	Republic Flow Meters Co.....	33
DeLeuw, Cather and Company.....	20	Sargent and Lundy.....	26
Economy Book Store.....	44	Sauerman Bros., Incorporated.....	28
Ehret and Kinsey.....	38	Wm. E. Schweitzer.....	27
Erik Floor & Associates, Inc.....	30	Sommer System.....	27
Walter H. Flood & Co.....	Inside Back Cover	South Side Consolidated Employment Agency.....	47
Frey Engineering Company.....	46	Sterling Draft-Kit.....	47
Fulton Asphalt Company.....	18	Strobel Construction Company.....	31
General Electric Company.....	61	Valve and Primer.....	45
Greeley and Hansen.....	31	Albert H. Wetten.....	43
Griffenhagen & Associates.....	34	Telephone Repair & Supply.....	34
E. R. Gritschke.....	18	Zack Company.....	24

CONSTITUTION

The Western Society Of Engineers

Adopted May 31, 1922 with Subsequent Amendments

Including Amendment Adopted May 7, 1948

ARTICLE I

Name and Location

Sec. 1. The name of this association shall be The Western Society of Engineers.

Sec. 2. The offices of the Society shall be located in the City of Chicago, Illinois.

ARTICLE II

Objects

Sec. 1. The objects of this Society shall be the advancement of the theory and practice of engineering, the improvement of the status of engineering practice as a profession, and the maintenance of high professional standards.

ARTICLE III

Seal

Sec. 1. The seal of the Society shall be as reproduced herewith.



Sec. 2. All official instruments issued by or under the authority of the Society shall be authenticated by this seal. The Secretary of the Society shall be the custodian of the seal.

ARTICLE IV

Policy

Sec. 1. The Society shall neither endorse nor recommend any individual or any scientific or engineering production, except in the interest of the public or the profession. The opinion of the Society may be expressed on such subjects as pertain to the public welfare.

ARTICLE V

Membership

Sec. 1. The membership shall be open to persons of good character skilled or interested in engineering.

Sec. 2. The membership shall be divided into grades to be known as Honorary Members, Members, Associate Members, Junior Members, Student Members and Affiliate Members.

Sec. 3. The Honorary Members, Members and Associate Members shall constitute the corporate membership of the Society and have the exclusive right to vote and hold office.

Sec. 4. An Honorary Member shall be a person of acknowledged eminence in engineering, or in a science related thereto, or who has rendered outstanding service to the engineering profession. There shall be no more than fifteen such members at any one time; no more than two may be elected in any one fiscal year.

Sec. 5. A Member shall be not less than thirty years of age; shall have been engaged in the practice of engineering for not less than ten years; shall be qualified to design or direct engineering work; and shall have had responsible charge of engineering work for not less than five years.

Sec. 6. An Associate Member shall be not less than twenty-five years of age and shall have been engaged in the practice of engineering for not less than five years.

Sec. 7. A Junior Member shall have been engaged in the practice of engineering for not less than three years. He shall transfer to another grade before the end of the fiscal year in which he becomes twenty-eight years of age, or his connection with the Society shall terminate. Additional time, not to exceed three years, may be allowed at the discretion of the Board of Direction.

Sec. 8. A Student Member shall be an undergraduate in the junior or senior year in an engineering college of recognized standing. He shall transfer to another grade

within one year after the termination of student work or his connection with the Society shall then terminate.

Sec. 9. An Affiliate Member shall be a person interested in the advancement of engineering.

Sec. 10. In determining the eligibility of candidates for membership, credit shall be allowed, equivalent to the practice of engineering, of one-half year for each year of study completed in a college of recognized standing, except that graduation from an engineering college of recognized standing will be given three years credit. In no case shall the total credit for education exceed three years.

The performance of the duties of a teacher of engineering in a college of recognized standing shall be considered responsible charge.

Sec. 11. All members whose residence or principal place of business is within fifty miles of the Chicago post office shall be deemed resident; those beyond that limit shall be deemed non-resident.

ARTICLE VI

Admissions and Resignations

Sec. 1. All elections to membership shall be made by the Board of Direction. The affirmative vote of a majority of the entire membership of the Board shall be required for election to all grades except Honorary Member. Each candidate elected shall be duly notified of his election, and shall indicate his acceptance of membership by subscription to the Constitution and the payment of entrance fee and dues. If acceptance is not received within sixty days from the date of election, it shall be void unless the time shall be extended by the Board.

(Continued on Page 4)

CONSTITUTION

(Continued from Page 3)

Sec. 2. Proposal for Honorary membership shall be submitted in writing by at least fifteen Corporate Members, who shall state their reasons for the proposal. Election shall be by ballot, and shall require the affirmative vote of three-fourths of the entire membership of the Board. A person so elected shall be notified promptly by letter. The election shall be void if acceptance is not received within three months after mailing such notice.

Sec. 3. A member may resign by advising the Secretary in writing to that effect. The Secretary shall present such communication to the Board of Direction at its next regular meeting and it shall accept the resignation when all dues are paid.

ARTICLE VII Fees and Dues As Amended May 7, 1948

Sec. 1. The fees and dues for the various grades of membership shall be as follows:

	Entrance Fee	Annual Resident	Dues Non-Resident
Honorary Member	None	None	None
Member	\$20.00	\$20.00	\$13.50
Associate Member, for the first eight (8) years in this grade	16.50	16.50	11.50
Associate Member after eight (8) years		20.00	13.50
Affiliate Member	16.50	16.50	11.50
Junior Member	6.50	10.00	6.50
Student Member		3.50	3.50

From each of these annual dues \$2.50 shall be set aside as subscription to the publication of The Western Society of Engineers.

On transfer to a higher grade, the entrance fee previously credited to a member shall be applied against the entrance fee for the new grade.

Sec. 2. A person elected to any grade of membership shall pay dues for the fiscal year in which elected, proportional to the part of the year remaining at the time of election.

Sec. 3. If the dues of any member are not paid before December first, he shall lose the right to vote and to receive the publications of the Society.

The Board of Direction may, by an affirmative vote of a majority

of its members, grant extension, or excuse members from payment of dues, or waive the entrance fee if in the best interests of the Society.

Sec. 4. A member shall be liable for the payment of dues until he shall have resigned, been expelled, or relieved from the payment of said dues in accordance with the provisions of this Constitution.

Sec. 5. Corporate and Affiliate Members over sixty years of age shall not be billed for dues after having paid thirty years' dues. Such members shall be known as Life Members, but this designation shall not be construed to establish a separate grade of membership.

Sec. 6. The fiscal year shall commence with the first day of June.

ARTICLE VIII Officers

Sec. 1. The officers of the Society shall be a President, a First Vice President, a Second Vice President, a Secretary, a Treasurer and six Trustees.

Sec. 2. A vacancy in any of these offices shall be filled for the unexpired term by the Board of

Sec. 3. The Board shall supervise the investment and care of the funds of the Society; prescribe the system of accounts; make appropriations for specific purposes; act upon applications for membership as provided in Article VI, Section 1; adopt and revise such By-Laws as may be necessary for the proper conduct of the affairs of the Society and are not inconsistent with this Constitution; appoint such committees as are provided for in the By-Laws; and perform such other acts as are not inconsistent with this Constitution.

ARTICLE X Nomination and Election of Officers

Sec. 1. The President, the Vice Presidents and the Treasurer shall be elected annually and shall hold office for one year and until their successors are elected and qualified. The Trustees shall hold office for three years, two being elected each year.

Sec. 2. The Secretary shall be elected by the Board of Direction at its first regular meeting in each fiscal year or at an adjourned session thereof. An affirmative vote of a majority of the entire Board shall be required for election. He shall hold office for one year or until his successor is elected and qualified.

Sec. 3. Each December the Board of Direction shall elect a Nominating Committee of seven Corporate Members, of whom one, and only one, shall be a member of the Board, and not more than three of whom shall have served on the Nominating Committee within the previous three years. The appointment of this Committee shall be announced and suggestions for nominees solicited in the next regular issues of the publication of the Society.

Sec. 4. The Nominating Committee shall meet not later than January fifteenth and organize by electing from its membership a Chairman and a Secretary. It shall nominate a President, a First Vice President, a Second Vice President, a Treasurer and two Trustees. Before reporting to the Board, the Committee shall secure the acceptance of each nominee.

The Committee shall present its report to the Board of Direction at its regular February meeting. If the Board of Direction shall find any nominee ineligible for the office for which he is nominated, or if any vacancy should occur from

Direction. The appointee so selected shall not be ineligible for election to succeed himself.

ARTICLE IX Management

Sec. 1. The management of the Society shall be vested in a Board of Direction, consisting of the President, the two Vice Presidents, the Treasurer, the six Trustees and the two most recent Past Presidents who continue to be members.

Sec. 2. The Board of Direction shall hold regular meetings at least once every month. A majority of the entire membership of the Board shall constitute a quorum. Special meetings shall be called upon the order of the President, or at the written request of three members of the Board.

any cause, the Board shall select another nominee therefor. The nominations so reported shall be known as the Regular Ticket.

Promptly after the February meeting of the Board of Direction, a copy of the Regular Ticket shall be mailed to every Corporate Member.

Sec. 5. Additional nominations for any office provided for in Sec. 4 of this Article may be made by petition signed by at least twenty Corporate Members. Such petition shall be accompanied by the acceptance of the nomination by each nominee in writing and shall be filed with the Secretary of the Society before the twentieth day of March. Any petition so filed shall be presented to the Board of Direction at its regular March meeting. If the Board shall find any person so nominated ineligible for the office for which he is nominated, the petition as it relates to such nominee shall be rejected. Nominations made in accordance with this section shall be known as a Ticket by Petition.

Sec. 6. Corporate Members who are in arrears in the payment of their dues shall not be eligible for office.

Sec. 7. The President shall not be eligible for re-election.

Sec. 8. On or before the first day of April a letter-ballot shall be sent to each Corporate Member on which shall appear the names of all the candidates to be voted upon, so arranged as to indicate nominees of the Regular Ticket and of the Ticket, or Tickets, by Petition.

Sec. 9. The polls shall close at 12 o'clock noon, the fourth Monday in April. The Secretary shall certify to the competency of the voters and deliver their ballots to three Judges of Election appointed by the Board. These Judges shall canvass the ballots publicly and report the results of the canvass to the Board, which shall, by resolution, declare elected to their respective offices those candidates who have received a plurality of the votes cast. In case of a tie vote between two or more candidates for the same office, the Board shall decide by ballot between the candidates thus tied.

Sec. 10. The officers-elect shall assume their duties on the first day of June.

ARTICLE XI

Duties of Officers

Sec. 1. The President shall

have general supervision of the affairs of the Society. He shall preside at meetings of the Society and of the Board of Direction; shall appoint all committees not otherwise provided for, subject to the approval of the Board; and shall be an ex-officio member of all committees. He shall, jointly with the Secretary, sign all contracts and other written obligations of the Society which have been approved by the Board. At the Annual Meetings, he shall report on the general condition of the Society. The Vice Presidents in order of seniority shall preside at meetings and perform the duties of the President in his absence or in case the office becomes vacant.

Sec. 2. The Treasurer shall receive and deposit all moneys of the Society as designated by the Board of Direction. He shall pay all bills when approved in accordance with rules prescribed by the Board. He shall keep regular accounts of all receipts and expenditures in such form as the Board prescribes, which record shall be open at all times to inspection by the Board. He shall give a bond in such amount and with such sureties as the Board may require. He shall make an Annual Report, and such other reports as the Board may require.

Sec. 3. The Secretary shall be the Executive Officer of the Society, subject to the direction of the President and the Board. He shall have charge of the property of the Society, and shall conduct its business, under rules prescribed by the Board. He shall, jointly with the President, sign all contracts and other written obligations approved by the Board. He shall make and preserve a record of all proceedings of the Board. He shall make an Annual Report, and such other reports as the Board may require. He shall give a bond in such amount and with such sureties as the Board may require. The amount of his salary shall be determined annually by the Board at its first regular meeting.

ARTICLE XII

Subdivisions

Sec. 1. The Board of Direction may authorize the formation of subdivisions of the Society for the more convenient study and discussion of special fields or functions of engineering, as set forth in the By-Laws.

ARTICLE XIII

Meetings

Sec. 1. The Annual Meeting of the Society shall be held on the first Monday in June, at which time the Annual Reports shall be received and other business transacted.

Sec. 2. Other meetings may be called by the President; and shall be called on the request of ten Corporate Members, which request shall state the purpose of the meeting. Not less than one week prior to the date of each such meeting, the Secretary shall mail to each member a notice which shall state the purpose of the meeting; and no other business shall be considered thereat.

Sec. 3. At all meetings of the Society twenty-five Corporate Members shall constitute a quorum.

Sec. 4. Technical and social meetings of the Society and of its subdivisions shall be held at such times and places as may be provided in the By-Laws or approved by the Board.

ARTICLE XIV

Discipline

Sec. 1. The Society, through its Board of Direction, shall have the power to investigate and pass upon the conduct of its members alleged to be in violation of the Code of Ethics of the Society or otherwise inimical to the interests of the engineering profession or the Society.

Sec. 2. Upon alleged misconduct of a member coming to the notice of the Board, or upon filing of charges against a member signed by ten or more Corporate Members, the Board shall examine the charges, and if there appears to be sufficient reason for a hearing thereon, shall fix a date for such hearing, and shall, not less than thirty days before said date, notify the accused thereof by registered letter sent to his last known post office address, accompanied by a copy of the charges and a copy of this Article. At the hearing, the accused may hear all charges and all evidence adduced in support thereof, hear and at his option cross-examine any witnesses called in support of the charges, produce and examine witnesses in his defense, offer documentary evidence, and make an oral and a written

(Continued on Page 6)

CONSTITUTION

(Continued from Page 5)

statement in his own behalf. Promptly after the conclusion of the hearing, the Board shall consider the evidence and render its decision. A two-thirds vote of the entire Board shall be necessary to sustain the charges. If they are thus sustained, the Board shall fix the penalty at suspension for a stated period or expulsion, and shall notify the member that the decision becomes effective at the end of one month unless the accused previously enters a written appeal therefrom.

Sec. 3. Appeals shall be submitted to the Corporate Members by letter-ballot in a form to be prescribed by the Board. The ballot shall be accompanied by a statement of the charges, the Board's action thereon, together with such information as is deemed proper, and the defense of the member

making the appeal. Twenty days after being sent to the Corporate Members, the ballots shall be canvassed by the Board. A majority of all the votes cast shall be required to sustain the action of the Board. The Board shall notify the appellant and the Corporate Members of the result of the canvass of the ballots.

Sec. 4. No disciplinary proceedings of the Society shall be given publicity except as provided in this Article.

ARTICLE XV

Amendments

Sec. 1. Proposed amendments to this Constitution shall be submitted to the Secretary in writing and signed by not less than twenty-five Corporate Members.

The proposed amendments shall be submitted to the Board of Direction at its next regular meeting and referred by it to the Amendments Committee, which shall report on them to the Board not

later than the following regular meeting of the Board.

Sec. 2. Proposed amendments, unless withdrawn, shall be printed and mailed to all Corporate Members at least fifteen days prior to the meeting of the Society at which they shall be the order of business for discussion; they may be modified in any manner pertinent to the original amendments by a majority vote of the Corporate Members present at such meeting.

Sec. 3. The proposed amendments shall then be voted upon by letter-ballot, which ballot shall be due not later than thirty days after the meeting provided for in Sec. 2 of this Article and shall be counted promptly thereafter. In balloting on proposed amendments to the Constitution, an affirmative vote of two-thirds of all the ballots cast shall be necessary for adoption. Amendments so adopted shall take effect at the next Annual Meeting, unless the amendments are accompanied by a resolution of the Board providing that they shall take effect at an earlier date.

BY-LAWS

Adopted May 31, 1922

Including Amendment Adopted January 27, 1949

ARTICLE I

Admission to Membership

Sec. 1. Applications for admission, transfer or reinstatement shall be in such form as the Board of Direction may prescribe. They shall embody a concise statement of the candidate's education and professional experience, with dates and descriptions of work in which he has been engaged.

Sec. 2. Sub-professional Work is to cover the time spent as rodman, chainman, recorder, or draftsman; and also the time spent as instrumentman or inspector when working under direct supervision or on work where the personal responsibility and technical knowledge required are small; that is, minor positions in which the responsibility is slight and the individual performance of a task, set and supervised by a superior, is all that is required. It shall also include time during which he has

been occupied in engineering work before he is 21 years old, except as modified by the statement in regard to education in the definition of Professional Work. No account is to be taken of work done before the applicant is 16 years old, or of work performed during vacations. In figuring the years of "active practice in engineering work" each year of Sub-professional Work shall be rated as equivalent to one-half year of Professional Work.

Responsible Charge of Work Means

a. In the field, the applicant must have had the direction of work, the successful accomplishment of which rested upon him, where he had to decide questions of methods of execution and suitability of materials, without relying upon advice or instructions from his superior, and of supplying deficiencies in plans or correcting errors in design without first

referring them to higher authority for approval, except in cases where such approval is a mere matter of form.

b. In the office, the applicant must have had to undertake investigations, or carry out important assignments, demanding resourcefulness and originality, or to make plans, write specifications and direct the drafting and computations for designs of engineering work, with only rough sketches, general information and field measurements for reference and guidance.

c. In engineering teaching, the applicant must have taught in an engineering school of recognized reputation, and must have had, at least, a grade of assistant professor, or its equivalent.

Design means all that is given above as responsible charge of work in the office, and more. One qualified to design must be able, in the case of any desired piece of engineering, to meet the exigencies of the case, to fulfill the requirements of local circumstances and conditions, and yet not violate any of the canons of engineering. His plan, when executed, must successfully answer the purpose for which it was designed.

Professional Work shall include only the time after the applicant is 21 years old, during which he has been occupied in engineering work of a higher grade and re-

sponsibility than that above defined as Sub-professional Work. Time spent in engineering teaching subsequent to graduation shall be listed as professional work.

Sec. 3. An applicant for admission, transfer or reinstatement shall refer to at least three members to whom he is personally known. An applicant for Student grade need refer only to the dean or other authority of the school in which he is enrolled.

Sec. 4. If sufficient information is not received from the requisite number of references, the Secretary shall call on the applicant for additional references. Applicants who may not be personally known to the requisite number of members may be recommended for membership by three members of the Board of Direction after evidence has been secured sufficient, in their opinion, to warrant admission.

Sec. 5. The names of all applicants shall be published with a request for information regarding their qualifications for membership in the Society.

Sec. 6. Any applicant for admission or reinstatement, whose application may have been rejected by the Board of Direction, may make a new application at any time after one year from the date of the rejection of his previous application. Such new application shall be considered in conjunction with the previous application.

ARTICLE II

Fees and Dues

Sec. 1. Dues shall be payable annually in advance and shall become due on the first day of June of each year.

Sec. 2. Any person whose dues are more than three months in arrears shall be notified of this fact promptly by the Secretary.

Sec. 3. On December 1 of each year the Secretary shall notify all members, whose dues remain unpaid, of the provisions of Article VII, Section 3, of the Constitution. The Secretary shall report on the status of unpaid dues at the April meeting of the Board.

Sec. 4. Any member whose dues remain unpaid shall be reported to the Board at the May meeting, and, unless payment is received or extension is granted, his membership shall terminate at the close of the fiscal year.

ARTICLE III

Duties of Officers and Committees As Amended Jan. 27, 1949

Sec. 1. At the first meeting of each new Board, one of the Trustees shall be designated as Assistant Secretary, who shall serve without compensation.

Sec. 2. The Secretary, or in his absence the Assistant Secretary, shall attend all meetings of the Board of Direction. The Secretary or his authorized representative shall attend all meetings of the Society and its Sections.

Sec. 3. The Secretary shall be responsible for the employment and supervision of such staff as may be necessary to carry on the work of the Society, including one or more Assistant Secretaries, providing that the employment of such staff is authorized by the Board of Direction.

Sec. 4. All vouchers or checks drawn against the funds of the Society shall be payable only when signed by the Treasurer or President, and countersigned by the Secretary or Assistant Secretary.

Sec. 5. The Board of Direction may create an Executive Committee, consisting of the President, the Immediate Past President, the Vice Presidents and the Treasurer, which committee shall exercise such authority of the Board as may be delegated to it when the Board is not in session. It shall report at each regular meeting of the Board of Direction. The Executive Committee shall not have power to amend the By-Laws, elect or expel members, or fill vacancies on the Board of Direction.

Sec. 6. The Board of Direction shall appoint: A Finance Committee, a Program Committee, a Publications Committee, a Library Committee, and Admissions Committee, an Amendments Committee and a House Committee.

Each of these committees, except the Amendments Committee, shall be composed of not less than three Corporate Members of the Society, at least one of whom shall be a member of the Board. The Amendments Committee shall be composed of five Corporate Members of the Society, three of whom shall be the three latest Past Presidents who continue to be members of the Society. At least one member of the Finance and of the Library Committees and two members of the Program and of the Publications Committees shall have

served on the same committees during the previous year. The chairman of the Program Committee shall be an ex-officio member of the Publications Committee and the chairman of the Publications Committee shall be an ex-officio member of the Program Committee.

Sec. 7. The Finance Committee shall have immediate supervision over the financial affairs of the Society and shall report thereon monthly to the Board. It shall certify all bills for payment. It shall appoint a registered public accountant to supervise the accounting and to audit the books of the Society, as of May 31 of each year, which audit shall be included in its report.

The Finance Committee shall submit to the Board of Direction at the regular July meeting in each year a budget of expenses for the current fiscal year. Only routine office expenses shall be incurred in advance of the approval of the budget, except by specific authorization of the Board of Direction.

Sec. 8. The Program Committee shall be responsible for all programs for all meetings of the Society at large, the Sections and the Divisions. It shall commence planning these programs promptly after appointment and not later than the beginning of the third month of the administrative year. The Program Committee shall organize and arrange all programs for meetings of the Society at large. It shall receive the assistance of the Executive Committees of the Sections and the Councils of the Divisions for the purpose of supervising and coordinating all programs for meetings of the Sections and Divisions.

Not later than one month after the close of the administrative year, the committee shall submit its annual report which shall include a complete tabulation of all meetings of the Society, and its Sections and Divisions, together with any recommendations and suggestions which it believes will be of benefit to the Society.

The Committee shall prepare rules, which, when approved by the Board of Direction, shall govern the preparation and presentation of papers.

Sec. 9. The Publications Committee shall supervise the publications of the Society. It shall prepare rules, which when approved

(Continued on Page 8)

BY-LAWS

(Continued from Page 7)

by the Board of Direction, shall govern the publications of the Society.

Sec. 10. No paper for presentation or material for publication shall be accepted, which contains information readily found elsewhere, or especially advocates personal interests, or is carelessly prepared, or is foreign to the purposes of the Society.

Sec. 11. The Library Committee shall have general supervision over the library, the relations between The Western Society of Engineers and the John Crerar Library as established under the contract between the two organizations, and the library services established between the Society and the John Crerar Library.

Sec. 12. The Admissions Committee shall investigate all applications for membership and report thereon to the Board of Direction.

Sec. 13. The Amendments Committee shall consider and make a report to the Board on all proposed amendments to the Constitution referred to it in accordance with Article XV, Sec. 1, of the Constitution. It shall also give consideration to formulation and/or revisions of the By-Laws and/or Rules which it considers desirable, or which are referred to it, and shall report to the Board thereon.

Sec. 14. The House Committee shall have general supervision of the rooms in the Society's headquarters and property therein.

ARTICLE IV Subdivisions

(Sections, Divisions and Branches)

Sec. 1. A section shall consist of members of the Society interested in the more intimate study and discussion of a particular field of engineering. A section may be formed upon the written application to the Board of five per cent or more of the membership of the Society if in the opinion of the Board, it is in the interest of the Society as a whole.

Sec. 2. A division shall consist of members of the Society whose professional interests are of the same general character but not restricted to any particular field of engineering. A division may be formed upon the written request of forty or more members of the Society if in the opinion of the

Board, it is in the interest of the Society as a whole.

Sec. 3. The Board of Direction may at its discretion abolish a section or division if more than three months elapse from the date of authorization of such section or division before it is in active operation, or if at any time its membership falls below the number required for authorization, or for other satisfactory reasons; but this action shall be taken only after a resolution to abolish such section or division shall have been introduced at a regular meeting of the Board and laid over until a subsequent meeting, at which latter meeting the affirmative vote of two-thirds of the entire membership of the Board, obtained by letter-ballot if necessary, shall be required.

Sec. 4. A branch shall consist of members of the faculty, other instructing staff, and students enrolled in an engineering course in a college of recognized standing.

Sec. 5. The organization, management and operation of sections, divisions and branches shall be in accordance with rules approved by the Board of Direction.

ARTICLE V Meetings

As Amended Jan. 29, 1948

Sec. 1. Meetings of the Society and of its subdivisions, for the presentation and discussion of papers, or for social purposes, shall be held as authorized by the Board of Direction, and shall be open to the public except as may be ordered by the Board.

Sec. 2. Regular meetings of the Board of Direction shall be held during the fourth week of each month on call from the President.

The minutes of Board meetings shall be transcribed and sent promptly to each member of the Board.

ARTICLE VI Miscellaneous

Sec. 1. The Board may formulate rules, conforming with the Constitution and By-Laws, relating to any affairs of the Society. Such rules may be adopted at any regular meeting of the Board by the affirmative vote of a majority of the entire membership of the Board and shall take effect on adoption.

Sec. 2. In all questions involving parliamentary rules, not covered in the Constitution and By-Laws, Robert's Rules of Order shall govern.

Sec. 3. Any member who has complied with the provisions of the Constitution shall be entitled to a diploma certifying his grade of membership. It shall be signed by the President, attested by the Secretary, and bear the seal of the Society.

Sec. 4. The Society may issue badges to its members. The badges shall be of a design approved by the Board, shall bear distinguishing marks for the different grades and may have members' names and dates of membership engraved thereon. Prices of badges shall be fixed by the Board.

Sec. 5. Diplomas and badges shall be issued only on agreement providing for their return on demand of the Board in case of termination of membership.

Sec. 6. It shall be the duty of all members to call the attention of the Secretary to the improper use of the Society badge or symbols, or to claims made by non-members that they are members of the Society. The Secretary shall make an investigation and present the facts to the Board.

Sec. 7. The official record of the Society shall be known as the Midwest Engineer of The Western Society of Engineers. It shall be published under the direction of the Publications Committee; shall contain technical papers and discussion, and may include the Constitution, By-Laws, Rules of the Board, annual reports, the membership directory, and such other information as the Board may prescribe.

Sec. 8. The administrative year of all committees, officers of Sections and Divisions and all commissions created by the Society shall coincide with the administrative year of the Society as provided in Article X, Section 10 of the Constitution.

ARTICLE VII Amendments

Sec. 1. Any proposed amendment to these By-Laws shall be presented in writing at a regular meeting of the Board, and shall be voted upon at the next regular meeting. The Secretary shall mail a copy of the proposed amendment to each member of the Board at least fifteen days before the meeting at which action on such amendment is to be taken. An affirmative vote of two-thirds of the entire membership of the Board, obtained by letter-ballot if necessary, shall be required for adoption.

HONOR AWARDS

The Society administers or participates in four honor awards having as their purpose the recognition of engineering accomplishment and an incentive to engineers and members of the Society to excel in preparing and presenting engineering papers. These awards are the Octave Chanute Medal established in 1901, the Washington Award in 1916, the Charles Ellet Award (for Junior Engineers) in 1929 and the Alfred Noble Prize also in 1929. A brief outline of the purposes and conditions of each of these awards together with a list of the respective recipients follows:



OCTAVE CHANUTE MEDAL

Octave Chanute, during his term of office as president, presented the Society with a fund to provide medals as awards for the best papers in Civil, Mechanical and Electrical engineering presented before the Society during 1901. At the close of his administration in 1902, he donated a much larger fund the revenue therefrom to be applied in awards for prizes for papers read before the Society, under such conditions as the Board of Direction might determine.

During the following years medals have been awarded in General, Civil, Mechanical and Electrical engineering. The present design of the medal was adopted in 1913 and each medal bears the profile of Mr. Chanute on one side and on the obverse side the year of the award, the name of the recipient, the branch of engineering and the date on which the paper was presented.

The awards of the Chanute medal have been made as follows:

1901

W. D. Pence—Civil Engineering
J. H. Spengler—Civil Engineering
A. Bement—Mechanical Engineering
A. V. Abbott—Electrical Engineering

1902

J. W. Alvord—Civil Engineering
R. E. Milligan—Mechanical Engineering
E. B. Ellicott—Electrical Engineering

1903

A. Marston—Civil Engineering
Storm Bull—Mechanical Engineering
E. Gonzenbach—Electrical Engineering

1904

W. A. Shaw—Civil Engineering
A. Bement—Mechanical Engineering

1905

T. L. Condon—Civil Engineering
C. E. Sargent—Mechanical Engineering
C. H. Smoot—Electrical Engineering

1906

G. H. Bremner—Civil Engineering
W. L. Abbott—Mechanical Engineering
R. F. Schuchardt—Electrical Engineering

1907

F. E. Turneure—Civil Engineering
W. T. Ray and Henry Kreisinger—Mechanical Engineering
D. W. Roper—Electrical Engineering

1908

H. E. Horton—Civil Engineering
A. N. Talbot—Mechanical Engineering
Morgan Brooks—Electrical Engineering

1909

A. Bement—Civil Engineering
O. Chanute—Mechanical Engineering
R. H. Rice—Electrical Engineering

1910

C. K. Mohler—Civil Engineering
C. P. Berg—Mechanical Engineering
H. B. Gear—Electrical Engineering

1911

John Ericson—Civil Engineering
H. Gansslen—Mechanical Engineering
C. F. Burgess—Electrical Engineering

1912

Onward Bates—General Engineering
D. W. Mead—Civil Engineering
W. L. Abbott—Mechanical and Electrical Engineering

1913

O. H. Basquin—Civil Engineering
T. V. Salt—Mechanical Engineering

1914

Andrews Allen—General Engineering
Norman Stineman—Civil Engineering
Hymen Eli Goldberg—Mechanical Engineering

1915

Curtis McD. Townsend—General Engineering
Wilbur M. Wilson—Civil Engineering

1916

H. B. Sauerman—General Engineering
Clinton B. Stewart—Civil Engineering

1917

B. H. Peck—Electrical Engineering

1924

W. A. Shaw—General Engineering
John F. Hayford—Civil Engineering
Paul L. Battey—Mechanical Engineering

1935-37

W. M. Wilson—Civil Engineering
F. F. Fowle—Electrical Engineering

1937-38

Otto R. Jelinek—Civil Engineering
Earle G. Benson—Mechanical Engineering
J. Paul Clayton—Electrical Engineering

1938-39

Chas. B. Burdick—Civil Engineering
A. G. Shaver—Electrical Engineering

1939-40

Paul L. Battey—Civil Engineering
Gustav Egloff—Mechanical Engineering

1940-41

Lawrence T. Wyly—Civil Engineering
Charles W. Gennet, Jr.—Electrical Engineering

1941-42

Sholto M. Spears—Civil Engineering
Charles W. Lerch—Electrical Engineering

1942-43

John B. Jackson—Electrical Engineering

1943-44

Robert L. Anderson—Civil Engineering
Frank F. Fowle—Mechanical Engineering

1944-45

Ovid W. Eshbach—General Engineering

1945-46

George C. Hillis—Communication Engineering

1946-47

Tenney S. Ford—Sanitary Engineering
Albert L. Tholin—Sanitary Engineering

WASHINGTON AWARD

The late John W. Alvord, Past President W. S. E., in 1916 proposed the establishment of an honor award by the Society and donated a fund for its maintenance. The scope of the award was later enlarged and the name "Washington Award" adopted as a reminder that the first president was an engineer. The four "founder" engineering societies were invited to elect two representatives each to serve on the Commission of Award which also includes nine members to be selected by the Western Society.

The purpose of the Award is the "recognition of devoted, unselfish and pre-eminent service in advancing human progress." It is conferred each year upon an engineer whose professional attainments, in the judgment of the commission, have pre-eminently advanced the welfare of mankind. Presentation of the award is made at a joint meeting of the members of the five participating societies.

The token of the Washington Award is a beautiful bronze tablet mounted on a marble base and bearing an inscription reciting the purpose of the award, name of the recipient, the accomplishment for which it is given followed by the names of the participating societies.

Subsequent gifts by Mr. Alvord have increased the endowment to a substantial amount, enabling the award to be administered in a dignified manner. The Commission has adopted complete rules governing selection of candidates for the award and procedure in choosing the recipient. The names of the recipients and citations of the Award follow:

- 1919—**Herbert C. Hoover**, Hon. M. W. S. E., for his achievements as chairman, commission for relief of Belgium 1914-17, food administrator of the United States 1917-18.
- 1922—**Robert W. Hunt**, Hon. M. W. S. E., for his pioneer work in the development of the steel industry in the United States and for a life devoted to the advancement of the engineering profession.
- 1924—**Arthur N. Talbot**, Hon. M. W. S. E., for his life work as student and teacher, investigator and writer and for his enduring contribution to the science of engineering.
- 1925—**Jonas Waldo Smith**, for the rare combination of vision, technical skill, administrative ability and courageous leadership in engineering.
- 1926—**John Watson Alvord**, Past Pres. and Hon. M. W. S. E., for his pioneer work in developing the fundamental principles of public utility valuation and his marked contributions to sanitary science.
- 1927—**Orville Wright**, for fundamental scientific research and resultant successful airplane flight.
- 1928—**Michael Idvorsky Pupin**, for devotion to scientific research leading to his inventions which have materially aided the development of long distance telephony and radio broadcasting.
- 1929—**Bion Joseph Arnold**, Past President and Hon. M. W. S. E., for pioneering work in the engineering and economics of electrical transportation.
- 1930—**Mortimer Elwyn Cooley**, for vision and constructive leadership in the education of the engineer.
- 1931—**Ralph Modjeski**, Past President and Hon. M. W. S. E., for his contribution to transportation through superior skill and courage in bridge design and construction.
- 1932—**William David Coolidge**, for his scientific spirit and achievement in developing ductile tungsten and the modern x-ray tube.
- 1935—**Ambrose Swasey**, for his distinguished contributions as a builder of instruments, institutions and men.
- 1936—**Charles Franklin Kettering**, for his high achievements in guiding industrial research toward the greater comfort, happiness and safety of mankind in the home and on the highway.
- 1937—**Frederick Gardner Cottrell**, for his social vision in dedicating to the perpetuation of research the rewards of his achievements in science and engineering.
- 1938—**Frank Baldwin Jewett**, for inspiring and directing scientific research leading to improvements in the art of communication.
- 1939—**Daniel Webster Mead**, Hon. M. W. S. E., for his superior contribution to sound theory, good practice and high ethical standards in the creation of engineering works, as an engineer and as a teacher.
- 1940—**Daniel Cowan Jackling**, M. W. S. E., for pioneering in large-scale mining and treatment of low-grade copper ores, releasing vast resources from formerly worthless deposits.
- 1941—**Ralph Budd**, M. W. S. E., for vision and courageous leadership in advancing the technological frontiers of high speed railroad transportation.
- 1942—**William Lamont Abbott**, Past President and Honorary M. W. S. E., for advancing the standards of the engineering profession, for service to higher education, for aiding combustion research.
- 1943—**Andrey Abraham Potter**, for distinguished leadership in engineering education and research and patriotic service in mobilizing technical knowledge for victory in war and peace.
- 1944—**Henry Ford**, for pioneer development of mass production of low cost automotive transportation which revolutionized the way of life of mankind.
- 1945—**Arthur Holly Compton**, Hon. M. W. S. E., for his research and teaching in the physical sciences, increasing man's knowledge of the action of x-rays and cosmic rays.
- 1946—**Vannevar Bush**, for outstanding leadership in organizing and directing scientific resources of the nation toward victory in World War II.
- 1947—**Karl Taylor Compton**, for progressive administration of engineering education for leadership in research and for advancement of American industry in technology.
- 1948—**Ralph Edward Flanders**, for high technical skill in perfecting the tools of industry and for distinguished service in the field of human relationships.

IN THE LOOP BETWEEN APPOINTMENTS?

DROP IN AT

W.S.E. HEADQUARTERS

Delicious Meals

Friendly Atmosphere

Modern Lounge and Diningroom

84 E. Randolph St.

RA. 6-1736

BATTEY & CHILDS ENGINEERS

231 So. LaSalle ST. Chicago

BATTEY & KIPP INC. PAUL L. BATTEY
1922-1937 LEONARD C. CHILDS

Industrial Plants—Railroad Shops and
Terminals—Power Plants—Design and
Supervision

ANALYSES REPORTS APPRAISALS

CHARLES ELLET AWARD

This award was established in 1929 by a gift from E. C. Shuman, a Junior member, who suggested the name "Charles Ellet Award" as a memorial to that young engineer of Civil War days whose undaunted determination to succeed in the face of overwhelming disappointments outlived the struggle for recognition.

The award is symbolized by a beautiful loving cup on which is engraved, each time awarded, the name of the recipient and the name of his alma mater.

The cup is kept in display in the Society rooms. As evidence of the honor bestowed, the recipient receives an engraved certificate. A price of \$25.00 also accompanies the award.

The award is made periodically to a Junior member who, in the opinion of a committee of awards, is adjudged to have excelled in the preparation and presentation of a technical paper presented in competition for this award at a meeting of the Junior Engineers.

The recipients of this honor have been:

- 1930—John D. Burlie—Purdue University.
- 1932—Francis E. Wolosewick—Armour '27.
- 1933—Joseph Kucho.
- 1934—Irving J. Kadic—Chicago Tech. '27.
- 1935—Grover C. Lewis—Illinois '30.
- 1936—Robert W. Suman—Armour '34.
- 1937—George A. Nelson—Armour '35.
- 1939—Raymund V. McGrath—Univ. of Washington '35.
- 1940—Ray F. Erickson.

ALFRED NOBLE PRIZE

The Alfred Noble Prize was established in 1929 and consists of an award from the income of a fund contributed by engineers and others to perpetuate the name and accomplishments of Alfred Noble, Past President of both the Western Society and the American Society of Civil Engineers. The prize consists of a cash award, allowance for travel expense and a certificate signed by the president and secretary of the American Society of Civil Engineers, which society is trustee of the fund.

The award is open to any member, not past his thirty-first birthday, of the Western Society or any of the four "founder" engineering societies and is given for a technical paper of particular merit on any subject accepted for publication by any of the foregoing five societies.

The recipient of the prize is selected annually by a committee composed of one representative from each of the five

societies. The award is made at a general meeting of the society of which the recipient is a member.

The Alfred Noble Prize has been awarded as follows:

- 1931—C. T. Eddy (A. I. M. E.), for paper, "Arsenic Elimination in the Reverberatory Refining of Native Copper."
- 1932—Frank M. Starr (A. I. E. E.), for paper "Equivalent Circuits."
- 1933—Claude Maxwell Stanley, Jr. (A. S. C. E.), for paper "Study of Stilling—Basin Design."
- 1936—Abe Tilles (A. I. E. E.), for paper "Spark Lag of the Sphere Gap."
- 1937—G. M. L. Sommerman (A. I. E. E.), for Paper "Properties of Saturants for Paper-Insulated Cables."
- 1938—Ralph J. Schilthuis (A. I. M. E.), for paper "Connate Water in Oil and Gas Sands."
- 1939—Claude E. Shannon (A. I. E. E.), for paper "A Symbolic Analysis of Relay and Switching Circuits."

- 1941—Robert F. Hayes, Jr. (A. I. E. E.), for paper "Development of the Glow Switch."
- 1942—George W. Dunlap (A. I. E. E.), for paper "The Recovery Voltage Analyzer for Determination of Circuit Recovery Characteristics."
- 1943—Dr. Benjamin J. Lazan (A. S. M. E.), for paper "Some Mechanical Properties of Plastics and Metals Under Sustained Vibrations."
- 1944—W. R. Wilson (A. I. E. E.), for paper "Corona in Aircraft Electric Systems as a Function of Altitude."
- 1945—A. L. Ahlf (A. S. C. E.), for paper "Design Constants for Beams with Nonsymmetrical Straight Haunches."
- 1946—Martin Goland (Jr. A. S. M. E.), for paper "The Flutter of a Uniform Cantilever Wing."

SPECIAL REPRESENTATIVES

Alfred Noble Prize Award

L. K. Silcox....Committee of Awards

American Association for the Advancement of Science

Gustav EgloffRepresentative

Illinois Engineering Council

Directors

E. R. Hattis Donald N. Becker
Homer K. Smith Titus G. LeClair

Washington Award Commission

Members of Commission

John F. Calvert Titus G. LeClair
P. R. Elfstrom J. deN. Macomb
L. E. Grinter H. H. Morgan
L. R. Howson Fred T. Whiting
E. A. Imhoff

Highway Research Board

Frank E. Richart.....Representative

Chicago Technical Societies Council

Delegates

Henry Penn
Alternate—Arthur H. Jens, O. G. Smith
Alternate—E. A. Imhoff

Chicago Metropolitan Aviation Plan Advisory Board

James S. Anderson.....Representative

PERSONNEL OF BOARD OF DIRECTION

BOARD OF DIRECTION

OFFICERS

President	Verne O. McClurg.....	39 S. LaSalle St. (3)
First Vice President.....	Gustav Egloff.....	310 S. Michigan Ave. (4)
Second Vice President.....	H. P. Sedwick.....	72 W. Adams St. (3)
Treasurer to Oct. 18.....	M. P. Vore, Jr. (Deceased)	2240 Diversey Ave. (47)
Treasurer	Donald N. Becker.....	109 N. Wabash Ave. (2)
Executive Secretary.....	Donald V. Steger.....	84 E. Randolph St. (1)

TRUSTEES

One Year	{John deN. Macomb.....	105 N. Delaware St. (11)
	{Henry Penn.....	53 W. Jackson Blvd. (4)
Two Years	{Chas. E. DeLeuw.....	150 N. Wacker Dr. (6)
	{Eldon A. Imhoff.....	79 W. Monroe St. (3)
Three Years	{Wilfred Sykes.....	38 S. Dearborn St. (3)
	{F. T. Whiting.....	20 N. Wacker Dr. (6)

PAST PRESIDENTS

Titus G. LeClair.....	72 W. Adams St.
W. V. Kahler.....	212 W. Washington St.

And Of All COMMITTEES

For
1948-49

SECTION EXECUTIVE COMMITTEES

Bridge and Structural Engineering Section

Chairman.....	Albert P. Boysen
Vice Chairman.....	E. W. Prentiss
Program.....	Edward J. Slygh
Publications.....	A. R. Mitchell
Attendance.....	C. H. Westcott
Membership.....	W. B. Gray

Chemical and Metallurgical Engineering Section

Chairman.....	J. C. Witt
Vice Chairman.....	J. T. Gleick
Program.....	Harry P. Hagedorn
Attendance.....	Clarence Greasley
Membership.....	Clyde A. Crowley

Communications Engineering Section

Chairman.....	N. H. Saunders
Vice Chairman.....	Maurus T. Goetz
Program.....	Charles A. Huebner
Publications.....	W. F. Lanterman
Attendance.....	Aldo Allegretti
Membership.....	C. G. Smith

Electrical Engineering Section

Chairman.....	Ernest A. Dahl
Vice Chairman.....	V. E. McCallum

Publications.....	V. E. McCallum
Attendance.....	Harold J. McCreary
Fellowship.....	Wm. J. Behrens
Membership.....	George S. Hall

Fire Protection and Safety Engineering Section

Chairman.....	F. W. Spalding, Jr.
Vice Chairman.....	C. S. Ziolkowski
Program.....	Russell E. Johnson
Publications.....	Walter S. Helmer
Attendance.....	Elmer F. Reske
Membership.....	Bolton G. Anderson

Gas, Fuels and Combustion Engineering Section

Chairman.....	Kenneth Williams
Vice Chairman.....	A. G. Soderholm
Publications.....	Lee G. Bird
Attendance.....	George A. Morgan
Membership.....	Frederick C. Hensel

Hydraulic, Sanitary and Municipal Engineering Section

Chairman.....	Paul O. Richter
Vice Chairman.....	Ben H. Suhr
Program.....	L. E. Langdon
Publications.....	Albert L. Tholin

Attendance.....	George D. Hardin
Membership.....	Harry Lagerstrom

Mechanical Engineering Section

Chairman.....	H. H. Sonderegger
Vice Chairman.....	John D. Kinsey
Program.....	Harry A. Erickson
Publications.....	Rex E. Hieronymus
Attendance.....	Jay C. Marshall
Membership.....	Percy Sawyer

Traffic Engineering and City Planning Section

Chairman.....	Harry J. Bartz
Vice Chairman.....	Russell J. Newell
Program.....	William R. Marston
Publications.....	Reginald N. Wade
Attendance.....	Victor G. Hofer
Membership.....	Raymond W. Hazekamp

Transportation Engineering Section

Chairman.....	Harry M. Essington
Vice Chairman.....	T. C. Fredrick
Program.....	M. H. Dick
Publications.....	Elbridge G. Allen
Attendance.....	Otto K. Jelinek
Membership.....	Arthur Anderson

FUNCTIONAL DIVISION COUNCILS

Consulting Engineers' Division

Chairman.....	E. Gordon Fox
Vice Chairman.....	Chas. B. Burdick
Secretary.....	Harold G. Love
Program.....	Frank A. Randall
Publications.....	H. H. Morgan
Attendance.....	W. W. DeBerard

Engineering History Division

Chairman.....	William C. Mason
Vice Chairman.....	Harold B. Knudsen
Secretary.....	Paul L. Battey
Program.....	Walter S. Lacher
Membership.....	H. J. Fixmer

Junior Division

Chairman.....	William F. Schlax
Vice Chairman.....	John P. Gnaedinger

Secretary.....	Robert E. Kraft
Program.....	Gerald W. Groepper
Publications.....	Clifton H. Hubbell
Civic.....	Bolton G. Anderson
Library.....	Joseph Kucho, Jr.
Membership.....	Carl G. Bergstrom

Professional Women's Council

Chairman.....	Georgiana H. Peeney
Corr. Secretary.....	Mary L. Murphy

Regular Committees

Finance

Donald N. Becker, Chairman
Henry Penn, Board Member
F. E. Andrews
George R. Bailey
Paul L. Battey
Albert P. Boysen
M. W. Casad

Program

Arthur W. Howson, Chairman
L. E. Langdon, Vice Chairman
Boris Woloshin, Secretary
Wilfred Sykes, Board Member
Leroy F. Bernhard (Ex-officio)
Herman M. Ross (Ex-officio)
Linton E. Grinter (Ex-officio)
L. E. Langdon, Chm., Speakers and Attractions
G. Frederick Gould, Chm., Attendance and Fellowship
Claude C. Bowers, Chm., Arrangements and Excursions
Clara E. Lawrence, Speaker's Bureau

House

Ernest E. Elliott, Chairman
Iris Ashwell
Arthur C. Carlson
Richard P. Frame
Rex E. Hieronymus

Library

Fred A. Rogers, Chairman
John deN. Macomb, Board Member
Edison Brock
Daniel E. Clark
Donald H. Erickson
H. H. Field
Henry M. Hermansen
John F. Humiston
John E. King
Joseph Kucho, Jr.
Russell L. Lawson
Russell J. Newell
John R. Smith
Raymond Wagner

Publications

Leroy F. Bernhard, Chairman
Georgiana H. Peeney, Vice Chairman
Gustav Egloff, Board Member
Arthur W. Howson, (Ex-officio)
W. F. Lanterman, Chm., Advertising
Harold K. Hastrup, Chm., Editorial Board
William Kucinski, Chm., Public Relations

Admissions

George L. Jackson, Chairman
Charles E. DeLeuw, Board Member
Donald N. Becker
Albert P. Boysen
DeWitt C. Green
Eugene K. Lydon
C. H. Wicks
J. C. Witt

Amendments

Titus G. LeClair, Chairman
Einar T. Blix
Maurice W. Casad
Henry T. Heald
William V. Kahler

Special Committees

Awards

I. F. Stern, Chairman
E. A. Imhoff, Board Member
B. M. Kostenko
Harold J. McCreary
Harry G. Todman

Civic

Linton E. Grinter, Chairman
Titus G. LeClair, Board Member
Wm. R. Marston, Secretary
John J. Ahern
Bolton G. Anderson
James S. Anderson
Robert Arnet
Boris J. Barmack
Donald N. Becker
R. L. Bethel
James E. Cahill
Arthur C. Carlson
Silas Cartland
Clifford B. Cox
R. P. Dening
Frederick A. Faville
Richard G. Fencil
Hugh J. Fixmer
Edgar N. Fletcher
Max Fuhrer
John D. Gallagher
James C. Gilruth
J. T. Gleick
Ralph F. Gross
Herman Halperin
Robert N. Harmon
Elmer A. Johnson
Arthur M. Kaindl
Charles E. Keiser
H. Evert Kincaid
B. M. Kostenko
Franklyn J. Lammers
James R. McKenney
Jay C. Marshall
William W. Mathews
Gerhardt F. Meyne
Ernest E. Michaels

Ralph F. Michel
Charles A. Moore
Salvatore Pasquinelli
E. Paul Querl
Wm. F. Schlax
Franz Schulze
W. E. Schweitzer
Howard D. Shaw
Matthew C. Sielski
Frederick C. Smith
H. H. Sonderegger
James A. Stewart
T. H. Strate
Robin D. Stump
Ernest R. Techau
Albert L. Tholin
Joseph P. Toale
Leon D. Urbain
Royal C. Wise
Otto Zmeskal

Headquarters

O. G. Smith, Chairman
Bruce A. Gordon, Vice Chairman
Verne O. McClurg, Board Member

Development

H. P. Sedwick, Chairman
William V. Kahler, Co-Chairman
F. H. Lane
Boris Woloshin
Also includes chairmen of all sections and divisions and WSE representative
E. J. Valonie at IIT.

Educational

John F. Parmer, Chairman
L. S. Anda
Bolton G. Anderson
Arthur H. Brewer
Ray F. Erickson
John P. Gnaedinger
Herman H. Henkle
Gifford B. West

Inter-Society Educational Committee

R. A. Budenholzer, ASME
A. J. Snyder, ASME
E. M. Fucik, ASCE
A. L. R. Sanders, ASCE
F. W. Edwards, ASCE
Otto Zmeskal, AIME
C. M. Squarcy, AIME
G. B. West, AIEE
Harold R. Heckendorn, AIEE
John F. Parmer, WSE
L. S. Anda, WSE

Membership

Herman M. Ross, Chairman
Edward J. Slygh, Vice Chairman
Carl V. Johnson, Secretary
Fred T. Whiting, Board Member
(B & S) Walter B. Gray, Vice Chairman
(C & M) Clyde A. Crowley, Vice Chairman
(Commu) C. G. Smith, Vice Chairman
(Elect) George S. Hall, Vice Chairman
(FP & S) Bolton G. Anderson, Vice Chairman
(GF & C) Frederick C. Hensel, Vice Chairman
(HS & M) Harry G. Lagerstrom, Vice Chairman
(Mech) Percy Sawyer, Vice Chairman
(TE & CP) Raymond W. Hazekamp, Co-Chairman
H. Evert Kincaid, Co-Chairman
Matthew L. Rockwell, Co-Chairman
(Trans) Arthur Anderson, Vice Chairman
(Women) Mrs. Margaret E. Artman
Mrs. E. Frances Barnett
Mrs. Margaret F. Griesel
Ruth H. Perkins
(Junior) Richard I. Gavin
John P. Gnaedinger
(Misc.) Louis C. Gabbard, Vice Chairman



OFFICERS OF WESTERN SOCIETY OF ENGINEERS

President

VERNE O. McCLURG, President, 1948-49

Verne O. McClurg is a partner in the architectural and engineering firm of Mundie, Jensen & McClurg. From 1923 until 1945 he was associated with the firm of Holabird & Root & Burgee (then Holabird & Roche) as structural engineer. He graduated from the University of Colorado in 1911, with a B. S. degree in Civil Engineering, and for the following twelve years was engaged in the planning and supervision of construction with American Bridge Company, Illinois Central Railroad, and several other organizations.

Mr. McClurg became a Member of The Western Society of Engineers in 1931. He served as a Director on the Executive Committee of the Bridge and Structural Engineering Section, 1935-38, and was Chairman in 1936-37. His other committee service has included the Admissions, Program, Finance, and Development Committees. He was a Trustee of the Society from 1942 to 1945, and served as Second Vice President, 1946-47, and First Vice President, 1947-48.



First Vice President

GUSTAV EGLOFF, First Vice President, 1948-49

Dr. Gustav Egloff has been Petroleum Technologist for Universal Oil Products Company since 1944, and was Director of Research for the same firm from 1917 to 1944. In 1916 he was associated with the Aetna Chemical Co., Pittsburgh, and in 1915 with the U. S. Bureau of Mines. He was graduated from Cornell University in 1912, receiving an A.B. degree. He received a M.A. degree from Columbia University in 1913, and a Ph.D. degree from Columbia in 1916. During the period 1914-15 he was a Barnard Research Fellow at Columbia, and also served as Assistant to the Curator, Chandler Museum, Columbia University.

Dr. Egloff joined The Western Society of Engineers in 1936 and was a director of the Chemical and Metallurgical Engineering section 1936-39, serving as chairman from 1937 to 39. His committee service has included the Library, Program, Cooperative Relations, Attendance, and Development Committees. He was elected a Trustee in 1944.

Second Vice President

H. P. SEDWICK, Second Vice President, 1948-49

Mr. Sedwick joined The Western Society of Engineers in 1923. He served as a member of the Executive Committee of the Gas Fuels and Combustion Engineering Section from 1945 to 1948 and was Chairman of the Management Committee, 1946-47. He was Chairman of the Development Committee for the year 1947-48; Co-Chairman of this Committee for the year 1948-49; a Trustee of the Society, 1945-47; and Second Vice President for the year 1948-49. Mr. Sedwick has been associated with Public Service Company of Northern Illinois since 1913 where he had served in various engineering and operating capacities until 1941 when he became a Vice President of that company.



Treasurer

**DONALD N. BECKER, Treasurer,
1948-49 (Elected November, 1948)**

Donald N. Becker, chief structural engineer with A. J. Boynton and Co., was elected Treasurer of Western Society to complete the year's term left vacant due to Mr. Vore's death.

Mr. Becker has served as a Trustee from 1944 to 1946, and has been active

on the Bridge and Structural section from 1935 to 1940. He was a member of the Library committee during the year 1935 to 1937.

Mr. Becker also was a member of the Attendance committee in 1939; Fellowship committee, 1942 to 1943; Admissions committee, 1943 to 1946; and Civic committee, 1946-47.

From 1924 until 1948 when he joined A. J. Boynton and Co., he was Engineer of Bridge Design with the Division of Bridges and Viaducts, City of Chicago. He has been a member of the Society since 1920.



**MILTON P. VORE, Treasurer,
June 1, 1948, to October 19, 1948
(Deceased)**

Western Society was shocked to learn of the death of its Treasurer, M. P. Vore, Jr., on the morning of October 19.

Mr. Vore had been a member of the Society since 1919, serving actively as a Director and member of the executive committee of the Mechanical Engineering section. He also served on the Entertainment and Excursion committee, Co-operative Relations committee, Attendance committee, Publications committee, and was chairman of the Mechanical section during 1946-47.

Mr. Vore worked conscientiously as Treasurer of the Society, and was instrumental in modernizing and streamlining its accounting methods.

He was Secretary-Treasurer of Republic Flow Meters and a member of the Board of Directors of the company, serving in the same capacity with Autogas Company.

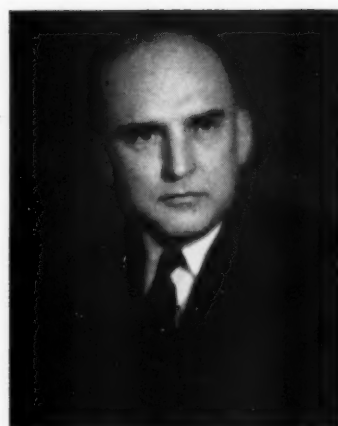
Western Society Trustees



John deN. Macomb



Henry Penn



Charles E. DeLeuw



Eldon A. Imhoff



Wilfred Sykes



Fred T. Whiting

Past Presidents



Titus G. LeClair



William V. Kahler



Donald V. Steger

Executive Secretary



Members

OF WESTERN SOCIETY OF ENGINEERS

HONORARY MEMBERS

ABBOTT, W. L. (M'01;Hon.M'31), (Past President), Retired, 3500 Lake Shore Dr., 13.

Budd, Ralph (M'32;Hon.M'48), Pres., Chicago, Burlington & Quincy R. R. Co., 547 W. Jackson Blvd., 6.

BURDICK, Chas. B. (M'01;Hon.M'46) (Past President), Partner, Alvord, Burdick & Howson, 20 N. Wacker Dr., 6.

Compton, Arthur H. (Hon.M'31), Chancellor, Washington University, Lindell & Skinker Sts., St. Louis 5, Mo.

Condron, Theodore L. (M'94;Hon.M'45), Retired, 212 S. Scoville Ave., Oak Park, Ill.

GEAR, Harry B. (M'07;Hon.M'47) (Past President), Retired, 10018 S. Bell Ave., 43.

HECHT, J. L. (M'07;Hon.M'47) (Past President), Vice Pres., Public Service Company of Northern Illinois, 72 W. Adams St., 3.

Hoover, Herbert (Hon.M'26), Stanford University, Stanford, Calif.

MONROE, Wm. S. (M'01;Hon.M'46) (Past President), Retired, 105 S. LaSalle St., 3.

REICHMANN, Albert (M'97;Hon.M'45) (Past President), Retired, 600 Central Ave., Wilmette, Ill.

LIFE MEMBERS

The Constitution of the Society provides that Corporate and Affiliate Members, over sixty years of age, who have paid thirty years' due shall be exempted from further pay-

ment of dues and that such members shall be designated as "Life Members." The following is a list of the members who are awarded this honor:

Edwin Ahlskog
John P. Ball
E. H. Bangs
Paul L. Battey
Norman J. Beisel
Murray Blanchard
M. D. Blumberg
Horace P. Boardman
James H. Brace
Henry M. Brinckerhoff
Carl Brockhausen
C. W. Brooks
Howard Brooks
John F. Brown
Paul G. Brown
Avery Brundage
Geo. T. Bunker
Ralph H. Burke
Edw. F. Carter
F. H. Cenfield
Sidney T. Corey
Herbert S. Crocker
John A. Dailey
W. W. DeBerard
F. W. Dencer
Edward C. De Wolfe
Chester T. Dike
H. F. Dose
Orville H. Drought
Wm. G. Evans
Gottlieb Filippi
F. W. Fischer
H. J. Fixmer
Julius Floto
Tenney S. Ford
E. J. Fowler
Myron M. Fowler
N. P. Frandsen
Chas. F. Franson
L. C. Fritch
E. J. Fucik
Carl A. Gaensslen
H. Gansslen
Bert A. Gayman
G. F. Gebhardt
W. D. Gerber
Robert L. Gifford
James B. Girand
E. O. Griffenhagen

Victor Guillemin
Harry H. Hadsall
T. Lovel D. Hadwen
Merton G. Hall
Mahlon J. Hammer
George W. Hand
Jacob A. Harman
E. F. Hartzell
Wm. A. Hazard
J. H. Heald
R. M. Henderson
J. L. Hiller
F. W. Hillman
Charles S. Holcomb
Horace B. Horton
A. M. Houser
Louis R. Howson
Frank C. Huffman
J. L. Jacobs
F. L. Jefferies
Gunner Jeppesen
Edward Lindley Jones
Lee Jutton
Henry J. Kaufman
R. F. Kelker, Jr.
E. J. Kelly
Wm. M. Kinney
Walter S. Lacher
Paul W. Leisner
Howard Logan
M. N. Lovewell
J. L. McConnell
John C. McNicol
Don E. Marsh
F. H. Masters
Roy C. Mitchell
Chas. W. Morey
Frederick E. Morrow
Charles A. Morse
R. S. Moss
Edgar S. Nethercut
Henry W. Nichols
Samuel F. Nichols
J. W. Page
Walter J. Parsons
Charles E. Paul
Langdon Pearce
John C. Penn
J. N. Pierce

C. S. Pillsbury
W. G. Potter
Chas. A. Pratt
John S. Prell
Frank A. Randall
Robert Isham Randolph
Frank Rasmussen
Wm. T. Reeves
Ralph H. Rice
Fred A. Rogers
D. W. Roper
E. N. Roth
J. C. Sanderson
John A. Sauerman
Albert J. Schafmayer
Bernhard Schroeder
Ray Seely
Walter A. Shaw
L. K. Sherman
W. G. Sloan
S. T. Smetters
R. C. Smith
Edwin H. Smythe
G. B. Springer
I. F. Stern
C. B. Stewart
G. W. Stickney
John A. Stromberg
M. E. Thomas
Merle J. Trees
F. E. Turneure
Isaac Van Trump
J. A. V. Turck
Fred G. Vent
William H. Warner
Alexander C. Warren
Carl Weber
Melville B. Wells
J. F. Werlich
Linn White
C. C. Whittier
Thomas Wilson
Wilbur M. Wilson
Benj. Wolhaupter
D. C. Wray
Henry H. Ziesing

MEMBERSHIP LIST

The following list contains the names and last known information of all members corrected to January 31, 1948. The mailing address only is given for members who have not filed a registration card since 1946.

After each name is an abbreviation showing the grade of membership and the year in which the member accepted that grade. In these abbreviations Hon. M, is for honorary member; M, member; A, associate; J, junior; S, student; and Aff, affiliate.

City and state has been omitted for all Chicago addresses.

Abbott, F. J. (A'48), Sr. Cost Analyst, Commonwealth Edison Co., 72 W. Adams St., 90.

ABBOTT, W. L. (M'01; Hon. M'31) (Past President), Retired, 3500 Lake Shore Dr., 13.

Abbott, W. Rufus (M'23), Retired, Melbourne, Fla.

Abmeyer, A. S. (M'40), Division Plant Supervisor, Illinois Bell Telephone Co., 208 W. Washington St., 6.

Ackerman, Robert H. (M'47), Engr. in Charge of Field, Holland, Ackerman & Holland, 20 N. Wacker Dr., 6.

Acott, Maurice Q. (A'48), Cable Foreman, Western Union Telegraph Co., 1029 W. Adams St., 7.

Acton, V. S. (M'45), Mgr., Steel Mill Section, Westinghouse Electric Corp., 20 N. Wacker Dr., 6.

Adam, George H. (A'46), Traffic Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.

Adams, Harry H., Jr. (M'36), Vice Pres., Sales, Hannifin Corp., 1101 S. Kilbourn Ave., 24.

Adams, Luther (J'26; A'29-'33; '46), Building Inspector, Village of Winnetka, 510 Green Bay Rd., Winnetka, Ill.

Adams, Theodore J. (S'48), 570 S. School St., Lombard, Ill.

Adler, Geo. H. (J'24; A'28-'38; M'47), Asst. Div. Oper. Supt., Public Service Company of Northern Illinois, 1701 S. First Ave., Maywood, Ill.

Adler, Howard R. (M'44), Mgr., National Biscuit Co., 240 Main St., Marseilles, Ill.

Ahern, John J. (M'45), Prof. and Director, Fire Protection and Safety Engr., Illinois Institute of Technology, 3300 S. Federal St., 16.

Ahlskog, Edwin (M'10), Cons. Engr., 1004 Baltimore St., Kansas City 6, Mo.

Ahlstrom, Walter (M'48), Supt., Sta. Elect. Div., Commonwealth Edison Co., 72 W. Adams St., 90.

Albert, Edward R. (M'40), Struct. Engr., Vern E. Alden Co., 120 S. LaSalle St., 3.

Albright, Geo. M. (M'48), Vice Pres. and Chief Engr., Powers-Thompson Construction Co., 27 S. Chicago St., Joliet, Ill.

Alday, Ralph R. (S'47), 1117 W. Harrison St., 7.

Alden, Vern E. (M'36), Gen. Partner, Vern E. Alden Co., 120 S. LaSalle St., 3.

Alford, Thomas E. (M'40), Supv., Bldg. Plans and Specs., Illinois Bell Telephone Co., 208 W. Washington St., 6.

Allegretti, Aldo (M'40), Chief of Dept., Western Electric Co., Inc., Hawthorne Works, 23.

Allen, Arthur G. (A'48), Engr., Illinois Bell Telephone Co., 131 N. Franklin St., 6.

Allen, C. N. (A'47), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.

Allen, Elbridge G. (M'45), 80 E. Jackson Blvd., 4.

Alperin, Moses (M'36), Vice Pres., The Warner Construction Co., 5801 N. Clark St., 26.

Alsuede, Louis E. (M'36), Dist. Engineer, Division of Waterways, State of Illinois, 160 N. LaSalle St., 1.

Altpeter, Walter G. (M'29), Supt., Panel Shops, Western Electric Co., Inc., Hawthorne Works, 23.

Alven, Alfons (M'35), Pres., Bearings Company of America, Lancaster, Pa.

Anda, L. S. (M'30-'39; '44), Partner, Sargent & Lundy, 140 S. Dearborn St., 3.

Andersen, Charles H. (J'48), Power Piping Designer, Vern E. Alden Co., 120 S. LaSalle St., 3.

Andersen, Mads C. (A'46), Engr., P-3, Inter. Boun. & Water Comm., Com. Co. Bldg., San Benito, Texas.

Anderson, Arthur (A'19; M'37), Special Asst. Engr., New York Central System, LaSalle St. Station, 5.

Anderson, Bert W. (A'40), 215 W. Randolph St., 6.

Anderson, Bolton G. (A'45), Engr., Marsh & McLennan, Inc., 231 S. LaSalle St., 4.

Anderson, Carl A. (A'36; M'47), Civil Engr., Illinois Division of Highways, 205 W. Monroe St., 6.

Anderson, Emil N. (M'28), Retired, 933 N. Euclid Ave., Oak Park, Ill.

Anderson, H. A. (J'39; A'40), 293 Blackhawk Rd., Riverside, Ill.

Anderson, James S. (J'35-'42; A'43), Ch. Engr. and Gen. Supt., Robert G. Regan Co., 25 N. Ottawa St., Joliet, Ill.

Anderson, Joseph J. (M'48), Traffic Programs Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.

Anderson, Oscar E. (J'28-'30; M'48), Supt. of Const., Commonwealth Edison Co., 72 W. Adams St., 90.

Anderson, Peter K. (M'43), Const. Supt., Gawley Construction Co., Inc.,

Anderson, Russell E. (M'48), Vice Pres., Delta Star Electric Co., 2437 Fulton St., 12.

Anderson, Robert Howard (A'37; M'46), Sr. Engr., C. K. Willett, 317 N. Galena Ave., Dixon, Ill.

Anderson, Rob't L. (J'31; A'34; M'43), Supt. of Public Works and Village Engr., Village of Winnetka, Ill.

Anderson, Roy H. (M'46), Staff Engineer, DeLeuw, Cather & Co., 150 N. Wacker Dr., 6.

Andrew, C. R. (M'30), 6518 Kenwood Ave., 37.

Andrews, Edward L. (M'43), Machine Designer, Stewart-Warner Corp., 1826 Diversey Ave., 47.

Andrews, Francis E. (M'36), Engr. Elect. Transmission & Distribution Design, Public Service Company of Northern Illinois, 72 W. Adams St., 3.

Andrews, Fred O. (A'40), Studies Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.

Andrews, James H. (S'36; A'38-41; A'48), Arch'l. Engr., Wm. F. Thornton & Associates, 108 N. Dearborn St., 2.

Anning, H. E. (M'45), Pres., Anning-Johnson Co., Inc., 1514 W. Van Buren St., 1.

Appelquist, Fred V. (A'35-'39; '48), Asst. Supv., Plant Records, Commonwealth Edison Co., 72 W. Adams St., 90.

Appleby, Joseph, Jr. (J'46), Sales Engr., Beverly & Ruddock, 7001 N. Clark St., 26.

Archbold, M. J. (A'26; M'47), Engr., Mech. Design, Public Service Company of Northern Illinois, 72 W. Adams St., 3.

Arenberg, Albert L. (A'20; M'37), Pres., Luminator, Inc., 120 N. Peoria St., 7.

Arens, Albert H. (J'46), Draftsman, The Pure Oil Co., Box 266, Winnetka, Ill.

Armbrust, George M. (J'05; M'20), Ch. Elect. Engr., Commonwealth Edison Co., 72 W. Adams St., 90.

Armstrong, Emerson A. (M'24), Mgr., Industrial Sales, Public Service Company of Northern Illinois, 72 W. Adams St., 3.

Armstrong, H. G. (M'18), 6951 N. Ionia Ave., 30.

Armstrong, J. B. (M'48), Engr., Powers-Thompson Construction Co., 27 S. Chicago St., Joliet, Ill.

Armstrong, L. W. (A'48), Design Engr., 506 E. North St., Greenville, N. C.

Armstrong, Richard E. (S'48), 6614 Kenwood, 37.

Armstrong, W. Scott (M'20), Pres., W. Scott Armstrong Co., 109 N. Dearborn St., 2.

Arn, W. G. (M'19), Retired, c/o Fred Arn, Box 1013, Mobile 6, Ala.

**J. L. McCONNELL
& ASSOCIATES**

ENGINEERS — ARCHITECTS

53 W. Jackson Blvd.

Chicago 4, Illinois

Arnet, Robert (A'48), Capt. of Plant Protection, Croname, Inc., 3701 Ravenswood Ave., 13.

Arnold, Clarence C. W. (A'36-'39;'47), Dist. Maintenance Engr., Illinois Division of Highways, 160 N. LaSalle St., 1.

Arnold, George G. (Aff.'27-'33;A'43), Illinois Bell Telephone Co., 131 N. Franklin St., 6.

Aronstam, Milton S. (M'47), Director, Health & Safety, U. S. Atomic Energy Commission, P. O. Box 6140A, 80.

Artman, Mrs. Margaret E. (A'48), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.

Arvites, George D. (S'23;J'25-30;M'36-'37;'46), Sr. Engr. in Charge, Div. of Bridges, City of Chicago, 139 N. Clark St., 3.

Asherman, Albert A. (M'48), Asst. Supt., Commonwealth Edison Co., 140 S. Dearborn, 90.

Ashley, Clifford A. (M'20), Partner, Wells Engineering Co., Geneva, Ill.

Ashwell, Iris (A'48), Ch. Land Planner, Chicago Housing Authority, 343 S. Dearborn, 4.

Asmann, Edwin N. (M'47), Commercial Engr., Illinois Bell Telephone Co., 230 W. Washington St., 43.

Atkins, Dale B. (A'45), Apprentice Director, Carnegie-Illinois Steel Corp., N. Broadway, Gary, Ind.

Auscher, Albert (A'47), Elect. Des., A. J. Boynton & Co., 58 E. Washington St., 2.

Auty, K. A. (M'20), Retired, 2000 Lincoln Park West, 14.

Ayshford, L. C. (M'48), Const. Maint. & Tools Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.

Bacon, R. H. (M'46), Pres., R. H. Bacon & Co., 343 S. Dearborn St., 4.

Badger, Robert E. (J'49), Asst. Engr., Hubbard & Co., 5401 W. Roosevelt Rd., Cicero 50, Ill.

Bagnard, Ernest A. (M'47), Asst. Mgr., Metal Window & Door Div., Ceco Steel Products Corp., 5701 W. 26th St., 50.

Bailey, Alex D. (M'19), Vice Pres., Commonwealth Edison Co., 72 W. Adams St., 90.

Bailey, George G. (M'48), Div. Vice Pres., Public Service Company of Northern Illinois, 22 W. Cass St., Joliet, Ill.

Bailey, George R. (M'46), Gen. Mgr., Albert H. Wetten & Co., 141 W. Jackson Blvd., 4.

Bailey, Melville D. (A'48), Staff Supervisor, Illinois Bell Telephone Co., 6317 S. Maryland Ave., 37.

Bain, A. J. (M'25), Local Rep., Structural Steel, 75 Ponce de Leon Ave., Atlanta, Ga.

Baker, Irwin H. (M'43), Ch. Engr., S. A. Healy Co., 330 S. Dearborn St., 4.

BATES & ROGERS

CONSTRUCTION CORPORATION

600 W. Jackson Blvd.

CHICAGO 6

CIVIL ENGINEERS AND
GENERAL CONTRACTORS

Baker, J. S. (M'38), Vice Pres., Cook Electric Co., 2700 Southport St., 14.

Bakhshi, S. R. (A'20;M'33), 4931 N. Washtenaw Ave., 25.

Bakken, Arne S. (A'20-'24;M'47), Supv. Surveyor, Commonwealth Edison Co., 72 W. Adams St., 90.

Baldwin, Edward T. (M'47), Ch. New App. Engrg. Dept., Teletype Corp., 1400 Wrightwood Ave., 14.

Baldwin, John N. (A'47), Meter Engr., Field, Commonwealth Edison Co., 2233 S. Throop St., 8.

Balkin, Louis (M'29), Pres.-Treas., L. Balkin Builder, Inc., 3610 S. Albany Ave., 32.

Balkin, Stuart (A'47), Sec'y., L. Balkin Builder, Inc., 3610 S. Albany Ave., 32.

Ball, C. E. (M'46), Jr. Asst. Engr., Chicago Park District, 425 E. 14th Blvd., 5.

Ball, John C. (A'46), Engr., Refinery Engineering Co., P. O. Box 1977, Tulsa, Okla.

Ball, John F. (J'48), Dist. Engr., West Bend Equipment Corp., 6601 Olmsted, 31.

Ball, John P. (M'03-'11;'23), Retired, 2514 E. 73rd Pl., 49.

Ballenger, W. M. (M'43), Dist. Engr., Apparatus Dept., General Electric Co., 840 S. Canal St., 80.

Ballinger, Walter E. (M'43), Engr., Bucyrus Erie Co.-Monaghan Div., 931 N. Kilpatrick Ave., 51.

Bangs, Edward H. (M'11), Retired, 168 Addison Rd., Riverside, Ill.

Bank, Martin L. (M'48), Asst. Supt., Overhead Div., Commonwealth Edison Co., 72 W. Adams St., 90.

Banks, William Henry (Aff.'45), 1546 Jonquil Terrace, 26.

Banta, John S. (M'20), Retired, 930 Hickory St., Waukegan, Ill.

Barber, J. D. (M'17), Div. Constr. Engr., Missouri State Highway Dept., Macon, Mo.

Barber, Thomas C. (M'47), Pres., Tool Service for Industry, 140 N. Dearborn St., 2.

Barclay, Wm. O. (A'46), Field Engr., Herlihy Mid-Continent Co., 3200 E. 100th St., 17.

Bardwell, Allen E. (A'44), Western Div. Mgr., Fabreeka Products Co., 225 N. Wabash Ave., 1.

Baring, John W. (M'45), Asst. Ch. Testing Engr., Commonwealth Edison Co., 2233 S. Throop St., 8.

Barker, Lawrence B. (M'19-'35;'36), Engr. of Constr., Sanitary District of Chicago, 910 S. Michigan Ave., 5.

Barmack, B. J. (M'35), Sr. Engr., Line Design Div., Engrg. Dept., Commonwealth Edison Co., 72 W. Adams St., 90.

Barnes, Harold I. (M'46), Checker, American Bridge Co., Gary Plant, Gary, Ind.

THE HAINES COMPANY

Ventilation and
Air Conditioning Contractors
Sheet Metal Fabricators
— Welding —

1931 WEST LAKE STREET
CHICAGO 12, ILLINOIS
SE eley 3-2765

Barnett, Mrs. E. Frances (A'48), Struct. Designer, Shaw, Metz & Dolio, 208 S. LaSalle St., 4.

Baronet, John K. (A'43), Address unknown.

Barr, Frank C. (A'48), Supv., Wiring Inspection, Commonwealth Edison Co., 72 W. Adams St., 90.

Barta, D. D. (M'48), Struct. Engr., Holabird & Root & Burgee, 180 N. Wabash Ave., 1.

Barth, Anton J. (Aff.'39;A'41), Cons. Engr., S. S. Sollitt Co., 307 N. Michigan Ave., 1.

Bartlett, George S. (M'46), Asst. to Vice Pres., Public Service Company of Northern Illinois, 72 W. Adams St., 3.

Bartz, Harry J. (M'36), Sr. Civil Engr., Sanitary District of Chicago, 910 S. Michigan Ave., 5.

Basler, Geo. R. (A'20-25;M'36), Design Engr., Cargill, Inc., 200 Grain Exchange, Minneapolis 15, Minn.

Bassett, James J. (M'19), Retired, 768 Center St., DesPlaines, Ill.

Batalden, Henry (Aff'41), Owner, Viking Tool & Die Co., 4075 Elston Ave., 18.

Batchelder, W. O. (M'20), Retired, 840 S. Canal St., 80.

Bates, Sidney E., Jr. (A'47), 4107 N. Springfield Ave., 18.

Bates, Walter A., Sr. (Aff'28-'34;M'43), Pres., Walter Bates Company, Inc., 1707 Rowell Ave., Joliet, Ill.

Bates, Walter A., Jr. (A'43), Vice Pres., Walter Bates Company, Inc., 1707 Rowell Ave., Joliet, Ill.

Bathey, Paul L. (M'10), Sr. Partner, Bathey & Childs, 231 S. LaSalle St., 4.

Bauer, Conrad A. (A'36-'44;M'46), Cable Rating & Temperature Engr., Commonwealth Edison Co., 72 W. Adams St., 90.

Bauerschmidt, G. J. (M'48), Supv. Engr., Commonwealth Edison Co., 72 W. Adams St., 90.

Baumel, Ervin (M'47), Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.

Bautz, Fredrick (M'36-'41;'47), Supv., Prod. Research Dept., International Harvester Co., West Pullman Works, 1015 W. 120th St., 43.

Baylis, John R. (M'27), Engr. of Water Purification, Dept. of Pub. Wks., City of Chicago, 3300 E. Cheltenham Pl., 17.

Baylor, C. L. (M'47), Village Engr., Village of Downers Grove, 1041 Burlington, Downers Grove, Ill.

Beaird, Robert D. II (J'40;A'46), Sr. Sales Engr., General Electric X-Ray Corp., 1417 W. Jackson Blvd., 7.

Beal, Henry C. (M'29), Vice Pres., Mfg., Western Electric Co., Inc., 195 Broadway, New York 7, N. Y.

Beasley, Thomas E. (M'45), 307 N. Michigan Ave., 1.

Becher, Clifford C. (A'48), Asst. Bldg. Maint. Supt., Illinois Bell Telephone Co., 208 W. Washington St., 6.

Beattie, C. Stuart (M'48), Vice Pres., Chg. Engr., Delta-Star Electric Co., 2437 Fulton Ave., 12.

Bechtolt, P. Robert (S'42;J'43), Fire Insur. Insptr., Missouri Inspection Bureau, 908 Corby Bldg., St. Joseph 9, Mo.

Becker, August E. (Aff'46), Purch. Agent, Chicago Steel Foundry Co., 3720 S. Kedzie Ave., 32.

BECKER, Donald N. (M'20), (Treasurer), Ch. Struct. Engr., A. J. Boynton & Co., 109 N. Wabash Ave., 2.

Beckman, Leroy J. (J'36;A'42), Field Engr., Wallace & Tierman Co., Inc., 1229 W. Washington St., 7.

MEMBERSHIP

Bedell, Kenneth H. (A'47), Sales Engr., Foster Wheeler Corp., 105 W. Adams St., 3.

Bee, Albert W., Jr. (M'28), Retired, Madrona Ave., Belvedere, Calif.

Beebe, Horace M. (A'14;M'37), Roberts & Schaefer Co., 307 N. Michigan Ave., 1.

Beem, Frederick A. (A'47), Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.

Beeman, W. Francis (M'43), Erecting Engr., American Bridge Co., 208 S. LaSalle St., 4.

Behmer, William C. (A'48), Sales Engr., Graver Tank & Mfg. Co., Inc., 332 S. Michigan Ave., 4.

Behr, Ralph K. (M'48), The Babcock & Wilcox Co., 105 S. LaSalle St., 3.

Behrens, William J. (M'45), Head Starting Engr., Generating Stations, Commonwealth Edison Co., 2233 S. Throop St., 8.

Beisel, N. J. (M'05), Pres., The Miners National Bank, 120 S. Center St., Pottsville, Pa.

Belding, L. S. (M'47), Dist. Mgr., Electric Service Mfg. Co., 111 N. Canal St., 6.

Bell, Chas. M. (A'20;M'47), Asst. Engr., Illinois Central R.R. Co., 135 E. 11th Pl., 5.

Bemis, Walter S. (M'47), 30 N. LaSalle St., 2.

Beneseck, Thomas (S'44;A'46), Field Engr., Geo. A. Fuller Co., 111 W. Washington St., 2.

Benetier, Leon E. (A'31), 72 W. Adams St., 90.

Benner, Archie C. (A'47), Southern Bell Telephone Co., Atlanta, Ga.

Bennett, C. G. (M'28), Vice Pres., Public Service Company of Northern Illinois, 72 W. Adams St., 3.

Bennett, Howard O. (M'48), Lubrication Engr., Standard Oil Co. (Ind.), 910 S. Michigan Ave., 80.

Bennett, J. Gardner (M'28), P. O. Box 18, Honolulu 10, T. H.

Bennington, Dorwyn S. (A'47), Engr. (Outside Plant), Pacific Telephone & Telegraph Co., 666 S. LaBrea St., Los Angeles 36, Calif.

Benson, Allen A. (J'29;A'35), Plant Design Engr., Indianapolis Power & Light Co., 17 N. Meridian St., Indianapolis 6, Ind.

Benson, Charles E. (M'28), 3532 W. Pierce Ave., 51.

Benson, Earle G. (M'36), Vice Pres., A. J. Boynton & Co., 58 E. Washington St., 2.

Benson, Edward (J'34;A'35), Tool Engr., Metro Tool & Gage Co., 4240 W. Peterson Ave., 30.

Bentz, Clarence L. (A'23;M'33), Sr. Struct. Designer, Sanitary District of Chicago, 910 S. Michigan Ave., 5.

Bentz, George W. (M'28), Retired, 1430 Park Ave., Pekin, Ill.

Benz, Carl Wm. (M'35), Owner, C. W. Benz Co., 312 S. Michigan Blvd., 4.

Beranek, Lloyd L. (S'28;J'28;A'34), Struct. Designer, Vern E. Alden Co., 120 S. LaSalle St., 3.

Bergland, Floyd E. (A'40), Dept. Ch., Western Electric Co., Inc., Hawthorne Works, 23.

Bergman, H. W. (A'40), Dist. Equip. Engr., Western Electric Co., Inc., Hawthorne Works, 23.

Bergslien, Robert M. (S'48), 318 Sherman Ave., Evanston, Ill.

Bergstrom, Carl G. (J'46), Bldg. Insptr., Illinois Bell Telephone Co., 212 W. Washington St., 6.

Berkenblit, S. E. (M'25), Arch'l. Engr., 82 W. Washington St., 2.

Bernard, Cecil O. (M'48), Safety Supv., U. S. Fidelity & Guaranty Co., 170 W. Jackson Blvd., 4.

Bernhard, Leroy F. (J'30;A'36;M'46), Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.

Berthold, Russell E. (M'48), Engr., Gus Berthold Electric Co., 1716 W. Hubbard St., 22.

Berzelius, Carl E. (M'45), Dist. Sales Mgr., U. S. Gypsum Co., 300 W. Adams St., 6.

Bessett, Clifford H. (J'48), Draftsman, Pullman Standard Car Mfg. Co., 109 Cottage Grove Ave., 28.

Bethel, Robert L. (J'28-'34;M'47), Commonwealth Edison Co., 72 W. Adams St., 90.

Bethke, Philip H. (J'48), Draftsman, Neiler, Rich & Bladen, 431 S. Dearborn St., 5.

Bettle, W. H. (M'20), Engr., Gas Measurement, Public Service Electric & Gas Co., 80 Park Place, Newark 1, N. J.

Beutler, Frank E. (M'27), Asst. Engr., Chicago & Western Indiana R. R., 47 W. Polk St., 5.

Biddison, P. McDonald (M'48), Cons. Engr., 135 S. LaSalle St., 3.

Bigelow, C. G. (M'29-'34;41), 109 N. Wabash Ave., 2.

Bigelow, Lawrence N. (M'46), Struct. Top Checker, American Bridge Co., Gary Plant, Gary, Ind.

Bigelow, Royal G. (A'23-'36;M'39), Assoc. Prof. Indust. Engrg., Northwestern Technical Institute, Evanston, Ill.

Biggs, E. James (M'42), Mgr., E. J. Biggs Construction Co., 8536 S. Peoria St., 20.

Bilek, Robert F. (A'46), Jr. Traffic Engr., Chicago Park District, 425 E. 14th St., 5.

Billow, Elmer E., Jr. (M'45), Pres., Billow Corporation, 565 W. Washington St., 6.

Bills, Frank B. (M'28), Gen. Staff Plant Supv., Illinois Bell Telephone Co., 208 W. Washington St., 6.

Bilsterman, Henry Ludwig (A'48), Elect. Engr., Western Electric Co., Inc., Hawthorne Works, 23.

Binford, W. H. (M'48), Arch.-Partner, Pace Associates, 53 W. Jackson Blvd., 44.

Bird, Byron (A'19;M'22), Ch., Engrg. Div., Washington Dist., Corps of Engineers, First & Douglas Sts., N. W., Washington 25, D. C.

Bird, Lee G. (J'24;A'30;M'47), Asst. Ch. Engr., Northwest Station, Commonwealth Edison Co., Roscoe & California Aves., 18.

Bird, Samuel E. (M'20), Arch. & Struct. Engr., 127 N. Oak Park Ave., Oak Park, Ill.

Bixby, Griffith S. (M'43), Cherry-Burrell Corp., 427 W. Randolph St., 6.

Bjorksten, Johan A. (M'48), Pres., Bjorksten Research Laboratories, 185 N. Wabash Ave., 1.

Black, Martin L. (S'48), 8136 S. Drexel Ave., 19.

Bladen, Arthur M. (M'48), Owner, Neiler, Rich & Bladen, 431 S. Dearborn St., 5.

Blaida, Andrew S. (A'42), Staff Engr., Stevenson, Jordan & Harrison, Inc., 205 W. Wacker Dr., 6.

Blair, George R. (M'47), Draftsman, American Bridge Co., Gary, Ind.

Blair, James H. (M'45), 311 Arthur St., Gary, Ind.

Blake, Gerald H. (A'48), Asst. Engr., Illinois Bell Telephone Co., 215 W. Randolph St., 6.

Blanchard, Geo. Louis (M'47), Designing Engr., Civil & Struct. Dept., Sargent & Lundy, 140 S. Dearborn St., 3.

Blanchard, Murray (M'14), Civil Engr., City of Chicago, City Hall, 2.

Blickensderfer, Joseph W. (A'48), Struct. Design, Electro-Motive Div., General Motors Corp., La Grange, Ill.

Blix, E. T. (A'27;M'36), Vice Pres. & Mgr., Melrose Park Plant, Mississippi Valley Structural Steel Co., Melrose Park, Ill.

Blood, D. K. (M'49), Engr. of Constr'n, Contracting & Material Co., 1235 Dodge Ave., Evanston, Ill.

Bloss, Daniel E. (M'29), Meter Supt., Western United Gas & Electric Company, 429 W. River St., Aurora, Ill.

Blumberg, M. D. (A'16;M'33), Retired, 108 Second San Marino Terrace, Miami Beach, Fla.

Blye, Eugene N. (J'29;A'34-'36;M'42), Design Engr., Los Angeles Harbor Dept., 538 S. Beacon St., San Pedro, Calif.

Boardman, Harry C. (M'36), Dir. of Research, Chicago Bridge & Iron Co., 1305 W. 105th St., 43.

Boardman, Horace P. (M'94), Retired, 735 West St., Reno, Nev.

Bochman, B. E. (M'41), Engr., Penick & Ford Ltd. Inc., Cedar Rapids, Ia.

Bockman, Theodore (M'48), Coordinator, Universal Oil Products Co., 310 S. Michigan Ave., 44.

Boeke, Arthur C. (J'31;A'32;M'47), Engr., Public Service Company of Northern Illinois, 1701 First Ave., Maywood, Ill.

Boersma, William (A'47), Draftsman, Sargent & Lundy, 140 S. Dearborn St., 3.

Bonham, John D. (A'47), Supv. Engr., Joyce & Co., Inc., 309 W. Jackson Blvd., 6.

Boome, Alexander, Jr. (A'47), Mech. Engr., Samuel R. Lewis & Assoc., 100 W. Monroe St., 3.

DE LEUW, CATHAR & COMPANY

Consulting Engineers

Transportation, Public Transit and Traffic Problems

Industrial Plants	Grade Separations
Railroads	Expressways
Subways	Tunnels
Power Plants	Municipal Works

150 N. Wacker Drive, Chicago 6, Ill.

Charles B. Burdick Louis R. Howson
Donald H. Maxwell

ALVORD, BURDICK & HOWSON

ENGINEERS FOR

Water Works, Water Purification, Flood Relief, Sewerage, Sewage Disposal, Drainage, Appraisals, Power Generation

20 N. Wacker Drive Chicago 6
Telephone: CE ntral 6-9147

- Booss, Theodore B.** (J'39;A'41), Sales Engr., The Lunkenheimer Co., 558 W. Randolph St., 6.
- Boot, George W.** (S'29;A'32;M'47), Asst. Engr., Ralph H. Burke, 20 N. Wacker Dr., 6.
- Boottz, Robert O.** (A'48), Engr., Neiler, Rich & Bladen, 431 S. Dearborn St., 14.
- Born, Paul L.** (M'30-'31;'45), Staff Engr., Public Service Company of Northern Illinois, 1001 S. Taylor St., Oak Park, Ill.
- Bottrill, David Hugh** (M'44), Prop. Engr., Ford, Bacon & Davis, Inc., 39 Broadway, New York, N. Y.
- Bouscaren, Louis H. G.** (M'38), Vice Pres. & Dir., Stone & Webster Engineering Corp., 33 S. Clark St., 3.
- Bouse, Edward J.** (S'37;J'38;A'45), Engr., Bell & Gossett Co., 8200 N. Austin, Morton Grove, Ill.
- Boutlier, Stephen Geo.** (S'33;J'36;A'46), 128 South St., Westboro, Mass.
- Bowie, Girard L.** (A'48), Struct. Engr., General Portland Cement Co., 111 W. Monroe St., 3.
- Bower, Wells S.** (S'48), 6400 S. Maryland Ave., 37.
- Bowers, C. C.** (M'40), Metropolitan Plant Supt., Western Union Telegraph Co., 1029 W. Adams St., 7.
- Bowman, George L.** (S'48), 5519 Kenwood Ave., 37.
- Boyajian, George E.** (Aff'39), Pres., Early Mfg. Co., 3171 Elston Ave., 18.
- Boyd, John H.** (A'47), Const. Prog. & Exp. Cont. Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Boye, Max Richard** (S'32;A'34;M'43), Mech. Design Engr., Wyman-Gordon Co., 146th & Wood Sts., Harvey, Ill.
- Boyer, Quinn O.** (A'24-'31;M'48), Commonwealth Edison Co., 72 W. Adams St., 90.
- Boysen, Albert P.** (M'31), Div. Engr., American Bridge Co., 208 S. LaSalle St., 4.
- Brace, James Henry** (M'94), Pres., Fraser-Brace Engineering Co., Ltd., 360 St. James St., Montreal 1, Canada.
- Braff, Lloyd M.** (M'47), Staff Engr., DeLeuw, Cather & Co., 150 N. Wacker Dr., 6.
- Bragdon, Harry B.** (M'43), Central Office Power Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Bramsen, S.** (A'27;M'34), Vice Pres., Spraying Systems Co., 4021 W. Lake St., 24.
- Brandenburg, William C.** (A'41), Bldg. Plans & Spec. Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Brandstetter, Joseph M.** (M'28), Struct. Engr., A. Epstein & Sons, 2011 W. Pershing Rd., 9.
- Brandt, John W.** (M'46), Spl. Application & Practice Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.
- Brasseur, Maurice** (Aff'45), Salesman, Westinghouse Electric Corp., 20 N. Wacker Dr., 6.
- Brater, Bernard H.** (S'40;Aff'41), 1928 W. Melrose St., 13.
- Brazelton, Roy M.** (M'47), Maint. Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.
- Brelie, George A.** (M'48), Fire Prot. Engr. & Reg'n'l. Mgr., Chemical Fireproofing Corp., 126 N. Franklin St., 6.
- Brewer, Arthur H.** (J'22;A'25-'31;M'48), Asst. Ch. Struct. Engr., Holabird & Root & Burgee, 180 N. Wabash Ave., 1.
- Brewer, Leon D.** (M'43), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Brice, William A.** (A'26;M'35), Exchange Transmission Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Bridges, Joseph L.** (M'29), Gen. Foreman, Repair & Const., Chicago Park District, 425 E. 14th Pl., 5.
- Briggs, William A.** (A'45), 8048 Princeton Ave., 20.
- Brilhart, Carl E.** (M'46), Struct. Designer, Pioneer Service & Engineering Co., 231 S. LaSalle St., 4.
- Brinckerhoff, Henry M.** (M'96), Consultant, Parsons, Brinckerhoff & Macdonald, 51 Broadway, New York 5, N. Y.
- Brinker, Robert W.** (S'47;J'48), Machine Designer, Illinois Tool Works, 2501 N. Keeler St., 39.
- Brizzolara, C. A.** (M'28), Works Mgr., Danly Machine Specialties, Inc., 2100 Laramie Ave., Cicero, Ill.
- Brock, Edison** (M'20), Mech. Engr., Chicago Subway Project, F. W. A., 20 N. Wacker Dr., 6.
- Brockhausen, Carl E.** (M'14), 20 W. Jackson Blvd., 4.
- Brocko, John** (A'40), 1238 W. Albion Ave., 26.
- Brogan, Joseph E.** (A'46), Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Bronski, Chester R.** (M'43), Ch. Draftsman, Commonwealth Edison Co., 72 W. Adams St., 90.
- Brooks, Chas. C.** (M'19), Retired, 6430 Kimbark Ave., 37.
- Brooks, Chason W.** (J'04;A'10;M'17), Struct. Engr., 9620 S. Winchester Ave., 43.
- Brooks, Howard** (M'04), Address unknown.
- Brosman, Granville P.** (M'47), Pl. Extension Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Broussard, Joseph** (S'33;A'36), 3311 N. 29th St., Tacoma 7, Wash.
- Brown, Dwight L.** (A'26-'35;M'40), Gen. Plant Mgr., Illinois Bell Telephone Co., 212 W. Washington St., 6.
- Brown, E. M.** (M'45), Gen. Personnel Supv. & Sec'y. of Employees Committee, Illinois Bell Telephone Co., 212 W. Washington St., 6.
- Brown, Gordon Whipple** (M'48), Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Brown, John F.** (M'13), Retired, 11019 S. Homewood Ave., 43.
- Brown, Joseph Henry** (A'19-'33;M'36), Sales Mgr., Barco Mfg. Co., 1801 Winnemac Ave., 40.
- Brown, Norman E.** (J'29-'33;M'47), Ter. Dev. Engr., Public Service Company of Northern Illinois, 72 W. Adams St., 3.
- Brown, Paul G.** (M'00), Colony Hotel, Palm Beach, Fla.
- Brown, Ray C.** (M'21), Ch. Engr., Burnham & Hammond, Inc., 53 W. Jackson Blvd., 4.
- Brown, S. K.** (A'25;M'47), Service Inspr., Altec Service Corp., 87 Walton St., Atlanta 3, Ga.
- Browne, Lyman L.** (M'25), Div. Staff Supv. State Area Traffic Dept. Illinois Bell Telephone Co., 215 W. Randolph St., 6.
- Brubns, Edward C.** (A'47), Supv. Contract Const. Work, Commonwealth Edison Co., 214 S. Sangamon St., 7.
- BRUMLEY, Daniel J.** (M'19), (Past President), 911 Bruce Ave., Flossmoor, Illinois.
- Brundage, Avery** (M'17), 10 N. LaSalle St., 2.
- Brunke, Robert R.** (A'48), Staff Supv., Bldgs., State Area, Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Brush, D. H., Jr.** (M'24-'39;'47), Partner, Rapp & Rapp, 230 N. Michigan Ave., 1.
- Brussel, Hugues** (M'19), Owner & Cons. Engr., Brussel & Viterbo, 812 Olive St., St. Louis 1, Mo.
- Bryce, William G.** (A'47), Engr., Chgo. Area, Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Bucher, Edmund V.** (A'20;M'27), Supv., Peoples Gas Light and Coke Co., 3500 S. Pulaski Rd., 23.
- Budd, Ralph** (M'32;Hon.M'48), Pres., Chicago, Burlington & Quincy R. R. Co., 547 W. Jackson Blvd., 6.
- Budnik, C. A.** (A'36;M'42), Proj. Mgr., Maxon Construction Company, Inc., 131 N. Ludlow Ave., Dayton 2, Ohio.
- Buehler, Robert M.** (A'28-'34;M'36-'37;'47), Power Acc't., Commonwealth Edison Co., 140 S. Dearborn St., 3.
- Bugeon, Russell E.** (A'48), Testing Engr., Commonwealth Edison Co., 2233 Throop St., 8.
- Bulley, Allan E.** (M'45), Vice Pres., Bulley & Andrews, 2040 W. Harrison St., 12.
- Bulot, Francis H.** (M'46), Cons. Engr., 411 W. Fifth St., Los Angeles 13, Calif.
- Bunker, G. T.** (M'07-'17;'20), Retired, 108 S. Waiola Ave., La Grange, Ill.
- Burchard, Wm. K.** (M'48), Training Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- BURDICK, Chas. B.** (M'01;Hon.M'46) (Past President), Partner, Alvord, Burdick & Howson, 20 N. Wacker Dr., 6.
- Burgee, Joseph Zeno** (M'47), Partner, Holabird & Root & Burgee, 180 N. Wabash Ave., 1.
- Burger, S. A.** (S'23;J'25;A'28), Checker, Pure Oil Co., 35 E. Wacker Dr., 1.
- Burhop, Harvey M.** (A'48), Sales Engr., Mississippi Valley Structural Steel Co., Melrose Park, Ill.
- Burke, Ralph H.** (M'15), Cons. Engr., 20 N. Wacker Dr., 6.
- Burkey, Mack G.** (S'23;J'25;A'32;M'47), Real Estate Appraiser, First National Bank of Chicago, 38 S. Dearborn St., 90.
- Burkross, James E.** (J'19;M'23-'34;'36), M. E., Sargent & Lundy, 140 S. Dearborn St., 3.
- Burnett, Alan D.** (M'48), 2617 Rascher Ave., 25.
- Burnett, Oliver F., Jr.** (J'28;A'34;M'44), Vice Pres., Kelso-Burnett Electric Co., 223 W. Jackson Blvd., 6.
- Burns, James J.** (J'28;A'34), Engr., Public Service Company of Northern Illinois, 1001 S. Taylor Ave., Oak Park, Ill.
- Burroughs, Kenneth L.** (M'48), Vice Pres., Aeronautical University, 116 S. Michigan Ave., 3.
- Burton, Elmer W.** (S'46), 30 E. 23rd St., Chicago Heights, Ill.
- Busch, Joseph Sherman** (S'48), Rm. 22, Bldg. T-717, Hdqrs. Camp Detrick, Frederick, Md.
- Bushman, Andrew K.** (M'36), Mgr., Application, Serv. & Const. Engrg. Divs., General Electric Co., 2 River Road, Schenectady 5, N. Y.
- Bushnell, Robert J.** (M'47), Asst. Supt., Serv. & Meter Dept., Commonwealth Edison Co., 140 S. Dearborn St., 90.
- Butcher, Harry Francis** (A'44), Jr. Design Engr., American Bridge Co., 208 S. LaSalle St., 4.

MEMBERSHIP

Butts, Charles A. (M'47), Signal Engr., Chicago Transit Authority, 79 W. Monroe St., 90.

Buxton, Bentley (A'40), Illinois Bell Telephone Co., 208 W. Washington St., 6.

Byrd, Porter J. (M'48), Engr., Commonwealth Edison Co., 72 W. Adams St., 90.

Caccavale, Ralph (A'48), Valuation Engr., Eugene & Max Fuhrer, 120 S. LaSalle St., 3.

Cahill, James E. (M'28), Vice Pres., Great Lakes Dredge & Dock Co., 122 S. Michigan Ave., 3.

Cahill, John B. (A'48), Estimator Engr., Gallagher-O'Brien Electric Company, 712 N. State St., 10.

Caldwell, Joseph, Jr. (M'48), Sr. Section Engr., Jefferson Electric Co., 25th & Madison Sts., Bellwood, Ill.

Callahan, John J. (Aff'47), City Foreman, Western Union Telegraph Co., 1029 W. Adams St., 7.

Calvert, John F. (M'38), Chairman, Dept. of Elect. Engrg., Northwestern University, Evanston, Ill.

Campbell, David, Jr. (M'47), Engr., Illinois Bell Telephone Co., 6317 Maryland Ave., 37.

Campbell, J. Alan (M'45), Dist. Engr., Westinghouse Air Brake Co., Matson Bldg., San Francisco 5, Calif.

Campbell, Richard B. (S'20;J'23;A'25-'30;M'47), Supt. of Constr., Harley-Ellington & Day, Stroh Bldg., Detroit, Mich.

Cappa, Lawrence B. (M'48), Div. Serv. Mgr., Public Service Company of Northern Illinois, 22 W. Cass St., Joliet, Ill.

Capra, Robert P. (S'44;J'48), Mech. Engr., Vapofier Corporation, 10316 S. Throop St., 43.

Carlisle, Kenneth G. (S'28;J'29-'35; Aff'47), Sub Station Operator, Public Service Company of Northern Illinois, 708 S. First Ave., Maywood, Ill.

Carlson, Arthur C. (A'42), Bldg. Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.

Carlson, Ernest A. (M'46), Engr., American Telephone & Telegraph Co., 311 W. Washington St., 6.

Carlson, Ernest C. (S'37;J'39;A'46), Layout Draftsman, International Harvester Co., 26th and Blue Island Aves., 8.

Carlson, Gordon V. (J'29;A'34;M'44), Supt. of Utilities, University of Illinois, Urbana, Ill.

Carlson, Martin F. (M'36), Manual Traffic Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.

Carlson, Warren W. (A'48), Bldg. Service Foreman, Illinois Bell Telephone Co., 208 W. Washington St., 6.

Carlson, Wendell (S'21;J'24;A'26; M'37), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.

Carlson, William C. (M'44), 9345 S. Claremont Ave., 20.

Carnahan, L. B. (M'47), Asst. Gen. Supt., Holabird & Root & Burgee, 180 N. Wabash Ave., 1.

Carr, Joseph H. (A'25;M'37), Address unknown.

Carragher, Ignatius E. (A'47), Asst. Managing Dir., Hedstrom & Co., 88 Chancery Lane, London, W. C. 2, England.

Carroll, Lawrence B., Jr. (A'48) Staff Supv., Illinois Bell Telephone Co., 208 W. Washington St., 6.

Carter, Edw. F. (M'15), Cons. Engr., 837 W. Hastings, Vancouver, B. C., Canada.

Carter, Howard A. (S'18;A'24;M'37), Sec'y., Council on Physical Medicine, American Medical Association, 535 N. Dearborn St., 10.

Cartland, Silas, III. (M'48), Cons. Engr., 111 W. Washington St., 6.

Carver, Francis T. (A'28-'31;M'47), Testing Engr. (Materials), Commonwealth Edison Co., 2233 S. Throop St., 8.

Casad, Maurice W. (M'36), Equip. & Bldg. Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.

Case, Nelson P. (M'47), Vice Pres. in Chg. of Engrg., The Hallicrafters Co., 4401 W. Fifth Ave., 24.

Caskey, A. D. (M'47), Elect. Engr., Public Service Company of Northern Illinois, 72 W. Adams St., 3.

Casley, Lee T. (A'47), Nat'l. Accounts Mgr., Montgomery Elevator Co., 329 S. Wood St., 12.

Caswell, Ralph W. (M'46), Design Engr., Public Service Company of Northern Illinois, 72 W. Adams St., 3.

Cather, LeRoy H. (M'29-'32;'41), Vice Pres., DeLeuw, Cather & Co., 150 N. Wacker Dr., 6.

Cebczynski, Henry J. (S'47), Draftsman, Vern E. Alden Co., 120 S. LaSalle St., 3.

Cehan, Eugene G. (S'36;J'38;A'43), Struct. Engr., J. E. Sirrine & Co., P. O. Box 960, Greenville, S. C.

Cenfield, F. H. (J'10;A'12;M'22), Retired, Sandwich, Ill.

Cerling, Fredolph A. (J'28;A'35-'41; M'47), 343 S. Dearborn St., 4.

Chabala, Bernard D. (A'48), Student Engr., Illinois Bell Telephone Co., 6317 Maryland Ave., 37.

Chamberlain, L. E. (A'48), Asst. Mgr. of Sales, Plate & Struct. Div., Inland Steel Co., 38 S. Dearborn St., 3.

Chambers, Connor John (M'48), Engr.-Examiner, Finance Committee Staff-City, City Hall, 2.

Chambers, Lynton H. (M'48), Mech. Draftsman, Commonwealth Edison Co., 72 W. Adams St., 90.

Chapman, Edward L. (J'48), Estimator, Link-Belt Co., 2410 W. 18th St., 8.

Cheatle, Edwin L. (A'21-'33;M'41), Arch., 2308 W. 109th St., 43.

Cheney, Seymour W. (M'28), Cons. Engr., 35 Greenwood Ave., Battle Creek, Mich.

Childs, Leonard C. (M'28), Partner, Battey & Childs, 231 S. LaSalle St., 4.

Chinlund, Daniel K. (A'47), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.

Chiple, Alfred S. (M'47), Ch. Research & Devel. Engr., Burgess-Manning Company, 749 E. Park Ave., Libertyville, Ill.

Christener, E. W. (M'45), 8117 S. Marshfield Ave., 20.

Christy, Andrew (M'41), Assoc. Dir., Ordnance Research No. 1, Univ. of Chicago, Museum of Science and Industry, 37.

Chubb, J. H. (M'26), Mgr., Service Bureau, Pennsylvania-Dixie Cement Corp., 60 E. 42nd St., New York 17, N. Y.

Ciabattari, Emil J. (M'44), Ch. Engr., Yeomans Bros. Co., 1433 N. Dayton St., 22.

Clabby, James H. (A'20;M'30-'33;'42), Civil Engr., Holly Bldg., Medford, Oregon.

Clark, Albert Bernard (M'19), Retired, The Orrington, Evanston, Ill.

Clark, Daniel E. (S'28;J'30;A'37;M'45), Asst. Ch. Engr., Shakeproof Div., Illinois Tool Works, 2501 N. Keeler Ave., 39.

Clark, Horace H. (M'18-'32;'38), Cons. Engr., 208 S. LaSalle St., 4.

Clark, Kenneth G. (A'48), 1748 E. 73rd St., 49.

Clark, Raymond W. (M'48), Sales Engr., Link-Belt Co., 300 W. Pershing Rd., 9.

Clark, Robert A., Jr. (A'28;M'37), Pres., Communication Equipment & Engineering Co., 5646 Race Ave., 44.

Clark, William E. (S'48), 5725 S. Green St., 21.

Clarke, Herbert R. (M'43), Ch. Engr., Chicago, Burlington & Quincy R. R. Co., 547 W. Jackson Blvd., 6.

Clayton, J. Paul (M'36), Ch. System Officer, Commonwealth Edison Company, 72 W. Adams St., 90.

Clementz, Philip J. (A'47), Plant Engr., Illinois Bell Telephone Co., 6317 S. Maryland, 37.

PAGE ENGINEERING COMPANY

MANUFACTURERS OF

AUTOMATIC DRAGLINE BUCKETS

PAGE DIESEL WALKING DRAGLINES

CHICAGO

- Clifford, Dell G.**, (M'36-'41;M'47), 202 Hi Lusi Ave., Mt. Prospect, Ill.
- Clyde, Andrew J.** (J'47), 3rd Lake, Grays Lake, Ill.
- Clyde, John P.** (A'26-'32;'36;M'41), Supv. Engr., Public Service Company of Northern Illinois, 1701 S. First Ave., Maywood, Ill.
- Coe, Russell H.** (M'48), Vice Pres., Pipeline Service Corp., Box 218, Franklin Park, Ill.
- Coffey, Elmer W.** (M'45), Cons. Engr., 201 Blackstone Ave., La Grange, Ill.
- Cohen, Theodore A.** (J'27-'34;M'44), Engr. Dir., Taco Engineering Co., 525 N. Noble St., 22.
- Cole, Theodore H., Sr.** (M'47), Com. Engr., Western Railroad Supply Co., 2428 S. Ashland Ave., 8.
- Collatz, Wm.** (M'36), Design Engr., Nelson L. Davis Co., 343 S. Dearborn St., 4.
- Collins, Joseph F.** (A'48), Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Collins, Walter S.** (A'46), Mech. Engr., Sauerman Bros., Inc., 522 S. Clinton St., 7.
- Colvin, Albert A.** (M'18), Div. Engr., Chicago & North Western Ry., Norfolk, Nebraska.
- Compton, Arthur Holly** (Hon.M'31), Chancellor, Washington University, Lindel & Skinker Sts., St. Louis 5, Mo.
- Compton, G. R.** (Aff'48), Field Supv., Commonwealth Edison Co., 2233 S. Throop St., 8.
- Condron, Theodore Lincoln** (M'94; Hon.M'45), Retired, 212 S. Scoville Ave., Oak Park, Ill.
- Conger, Jacques B.** (M'45), Prod. Dev. Engr., R. R. & Ind. Div., The Buda Co., 154th & Commercial Sts., Harvey, Ill.
- Conners, Harold C.** (A'46), Mgr., Sales, Steel Plate Div., Chicago Dist., Graver Tank & Mfg. Co., Inc., 332 S. Michigan Ave., 4.
- Connor, Ronnoc H.** (A'38), Sales Engr., Askania Regulator Co., 240 E. Ontario St., 11.
- Conover, Albert W.** (M'43), Pres. & Gen. Mgr., North Shore Gas Co., 209 Madison St., Waukegan, Ill.
- Conrad, Nicholas J.** (M'20), Pres., S & C Electric Co., 4435 Ravenswood Ave., 40.
- Contos, Peter G.** (S'48), 4912 N. Washtenaw Ave., 25.
- Conway, Edward F.** (J'44), Engrg. Draftsman, Magnaflex Corp., 5900 Northwest Highway, 31.
- Cook, Gordon** (M'48), Acct. Supv., Booz, Allen & Hamilton, 135 S. LaSalle St., 3.
- Cook, Maurice B.** (M'47), Ch. Elect. Engr., Robert E. Hattis, 223 W. Jackson Blvd. 6.
- Cook, Maynard A.** (M'40), Partner, Sloan, Cook & Lowe, 120 S. LaSalle St., 3.
- Cook, Oswald J.** (M'48), Mgr., O'Callaghan Bros., 21 S. Green St., 7.
- Cook, Robert A.** (M'19), 1234 N. State St., 10.
- Cooke, Robert E.** (A'47), Squad Leader, Vern E. Alden Co., 120 S. LaSalle St., 3.
- Cooper, F. F.** (M'24-'30;'40), Designer (Struct.), Illinois Central R. R., 135 E. 11th Pl., 5.
- Corboy, John A.** (M'48), Pres., M. J. Corboy Co., 305 N. Desplaines St., 10 St., 10.
- Core, H. H.** (M'48), Div. Com'l. Mgr. (Upstate), Illinois Bell Telephone Co., 1025 Sunnyside Ave., 40.
- Corey, Sidney T.** (M'12), Retired, 7250 Harvard Ave., 21.
- Cormany, Luther P.** (A'40), 153 N. Pine Ave., 44.
- Cosley, Harvey H.** (M'19), Retired, Box 129, R. R. 1, Wheaton, Ill.
- Cosyn, Peter R.** (J'31-'37;M'46), Group Leader, Pullman Standard Car Mfg. Co., 10909 Cottage Grove Ave., 28.
- Cota, Leon A.** (M'46), Sr. Plant Engr., Illinois Bell Telephone Co., 6317 Maryland Ave., 37.
- Cotter, William M.** (S'48), 1608 N. Lockwood Ave., 39.
- Cottrell, Robert B.** (M'46), Ch. Mech. Engr., American Steel Foundries, 410 N. Michigan Ave., 11.
- Coulson, Arthur G.** (J'28;A'33), Address Unknown.
- Coulter, Thomas H.** (A'42), Partner, Booz, Allen & Hamilton, 135 S. LaSalle St., 3.
- Cox, Claude E.** (M'37), C. E., Henry Bosch Co., 3245 W. 47th St., 32.
- Cox, Clifford B.** (A'37;M'45), Sec'y., Pacific Flush Tank Co., 4241 Ravenswood Ave., 13.
- Cox, Francis A.** (M'46), Asst. to Elect. Engr., Public Service Company of Northern Illinois, 72 W. Adams St., 3.
- Cox, Robert D.** (J'28;A'32;M'41), Elect. Engr., Henry Newgard & Co., 549 W. Washington St., 6.
- Coxe, Harlow A.** (A'31-'35;M'48), Inventory & Costs Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Craig, L. C.** (M'20), Griggsville, Ill.
- Cramer, Frank H.** (M'19), 2739 Agatite Ave., 25.
- Crawford, Mary Ann E.** (M'48), Arch., 2450 W. Hubbard St., 12.
- Cresap, Robert S.** (A'46), Dept. Mgr., Spiegel, Inc., 1061 W. 35th St., 9.
- Crocker, Herbert S.** (M'06), 2224 Fairfax St., Denver Colo.
- Crowell, Milton E.** (M'45), Factory Mgr., Hannifin Corp., 1101 S. Kilbourn, 23.
- Crowley, Clyde A.** (M'38), Chairman, Graham, Crowley & Associates, Inc., 407 S. Dearborn St., 5.
- Cudy, Ralph R.** (M'45), 3518 Three Mile Drive, Detroit 24, Mich.
- Culp, Edwin R.** (A'35), Engr., Public Service Company of Northern Illinois, 72 W. Adams St., 3.
- Cummings, Blaine** (J'28;A'31;M'43), Gen. Mgr., Illinois Bell Telephone Co., 212 W. Washington St., 6.
- Cunliffe, Paul R.** (M'47), Engrg. Supv., Mchdse. Testing, Montgomery Ward & Co., 618 W. Chicago Ave., 7.
- Cunnea, Jos. P.** (A'29;M'35), Asst. Engr., Chicago Park District, 425 E. 14th St., 5.
- Cunningham, James D.** (M'20), 2240 Diversey Pkwy., 47.
- Cunningham, Leonard E.** (Aff'48), Asst. Engr., Illinois Bell Telephone Co., 131 N. Franklin St., 6.
- Cuny, Howard J.** (A'47), Supt., Shops & Tool Serv., Commonwealth Edison Co., 2233 S. Throop St., 8.
- Curd, William C.** (M'20), 40 E. Oak St., 11.
- Currier, Milton G.** (M'46), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Curtis, John R., Jr.** (M'46), Engr., Real Estate, Commonwealth Edison Co., 72 W. Adams St., 90.
- Custer, Edward** (A'43-'47;'48), Struct. Engr., Sargent & Sundy, 140 S. Dearborn St., 3.
- Cutler, Byron H.** (M'45), Vice Pres., Muncie Construction Corp., 201½ E. Adams St., Muncie, Ind.
- Cutmore, Harry S.** (M'29), Pres., Harry S. Cutmore & Associates, Inc., 38 S. Dearborn St., 3.
- Daccardo, Samuel** (A'46), Asst. Purch. Agent, James Stewart Corp., 231 S. LaSalle St., 4.
- Dahl, Ernest A.** (A'45), Sales Engr., Federal Telephone & Radio Corp., 333 N. Michigan Ave., 1.
- Dahl, Geo. V.** (M'20), Pres., Dahl-Stedman Co., 11 S. LaSalle St., 3.
- Dahl, Oscar J.** (A'48), Supv. Spec. Fac. Assignments, Illinois Bell Telephone Co., 215 W. Randolph St., 6.
- Dahlgren, William J.** (S'34;J'35-'40; M'46) Engr., Tennessee Inspection Bureau, 1034 Stahlman Bldg., Nashville 3, Tenn.
- Dahlquist, Philip L.** (M'20-'30;'42), Associate, Hazelet & Erdal, 53 W. Jackson Blvd., 4.
- Dailey, Eugene E.** (J'41;A'46), Rep., American Brake Shoe Co., 109 N. Wabash Ave., 2.
- Dailey, John A.** (M'15), Rm. 710, City Hall, 2.
- Daley, James C.** (M'48), Pres., Jefferson Electric Company, Bellwood, Ill.
- Daly, Robert J.** (A'48), Engr. Illinois Bell Telephone Co., 212 W. Washington St., 6.
- Dangremond, L. M. G.** (J'23;A'27-'34; '41;M'47), Const. Supt., United Engineers & Constructors, Inc., 1401 Arch St., Philadelphia, Pa.
- Daniel, T. H.** (A'40), 2013 University Drive, Durham, N. C.
- Danielson, F. D.** (S'18;J'22;A'22;M'28), Exec. Vice Pres., Interstate Power Company, 1000 Main St., Dubuque, Iowa.
- Danisch, E. A.** (A'45), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Dansey, James W.** (M'20), Cost Engr., Val. Dept., The A. T. & S. F. Ry. Co., 80 E. Jackson Blvd., 4.
- Darke, Frank S.** (M'36), Dist. Engr., Railway Bearing Co., Inc., 20 N. Wacker Dr., 6.
- Darling, Paul W.** (M'47), Asst. Plant Engr., Caspers Tin Plate Co., 4100 W. 42nd Pl., 32.
- Darrow, Frank T.** (M'37), Retired, 73 N. Longcommon Rd., Riverside, Ill.
- Dartsch, F. A. L.** (A'48), Jr. Engr. of Sewer Design, Advance Planning Bureau of Sewers, 188 W. Randolph St., 1.
- Daus, Adolph H.** (M'20), 79 W. Monroe St., 90.
- Davies, Frank C.** (M'47), Outside Plant Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.
- Davies, Vernon L.** (M'19-'46;'48), Supt. of System Oper., Public Service Company of Northern Illinois, 72 W. Adams St., 90.
- Davis, Abraham** (M'47), Engr., Commonwealth Edison Co., 72 W. Adams St., 90.
- Davis, Cecil C.** (M'45), Hydraulic Engr., Airports, Ralph H. Burke, 20 N. Wacker Dr., 6.
- Davis, John I.** (M'47), Sec. Engr., Commonwealth Edison Co., 72 W. Adams St., 90.
- Davis, Louis R.** (A'20;M'22), Indus. Engr., Business Research Corp., 79 W. Monroe St., 3.
- Davis, Waldo E.** (A'24-'35;M'47), Starting Engr., Commonwealth Edison Co., 2233 S. Throop St., 8.
- Day, D. W.** (M'42), Vice Pres., Burgess-Manning Company, Libertyville, Ill.
- Deam, Clayton** (M'26-'30;M'47), Ch. Stress Analyst, Pullman Standard Car Mfg. Co., 10909 Cottage Grove Ave., 28.

de Ayala, Jose R. (S'23-'25;A'43), P. O. Box 1373, San Juan 6, P. R.
 DeBerard, W. W. (M'10), City Engr., City of Chicago, City Hall, 2.
 DeBlock, Maria J. (J'47), 520 Brompton Rd., 13.
 DeBoer, Herman O., Jr. (S'43;J'45), Sales Engr., H. O. DeBoer & Associates, 2 S. Park Ave., Lombard, Ill.
 DeBourge, Earl G. (S'26;J'28;A'32), 2257 N. Keystone Ave., 39.
 DeCamp, Stewart B. (M'36), 2240 Diversey Pkwy., 47.
 DeCarlo, Daniel J. (J'47), Checker, Pullman Standard Car Mfg. Co., 10909 Cottage Grove., 28.
 Deckert, John E. (A'20;M'22), Dir., Deckert Corp., 53 W. Jackson Blvd., 4.
 Dee, Marvin R. (M'48), Vice Pres., Dee & Sons Construction Corp., 105 W. Madison St., 2.
 Dehler, H. F. (J'30-'32;M'48) Engr., Gen. Trunk Studies, Illinois Bell Telephone Co., 215 W. Randolph St., 6.
 Dehr, William B. (M'43), Training Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.
 DeLEUW, Charles E. (J'13;M'21), (Trustee) Pres., DeLeuw, Cather & Company, 150 N. Wacker Dr., 6.
 Dencer, Frederick W. (M'09), 6715 Paxton Ave., 49.
 Denning, Ralph P. (M'48), Tech. Rep., Insurance Company of North America, 231 S. LaSalle St., 4.
 DeNio, Frederick H. (A'48), Power Engr., Western Electric Co., Inc., Hawthorne Works, 23.
 Densmore, A. W. (J'28-'34;M'48), Engr., Pacific Telephone & Telegraph Co., 608 E. Compton Blvd., Compton, Calif.
 Derrom, Donald L. (M'19-'24;'39), Mgr., Overdrive Div., Truckstell Manufacturing Co., 19900 W. 8 mi. Rd., Detroit 19, Mich.
 D'Esposito, Joshua (M'19), 20 N. Wacker Dr., 6.
 DeWolfe, Edward C. (A'03), Proprietor, DeWolfe Advertising Service, 2807 Forest Ave., River Grove, Ill.
 Dexheimer, Roy B. (S'28;J'30;A'37;M'47), O'Connor Construction Company, P. O. Box 358, Carbondale, Ill.
 Dick, Merwin H. (J'32;A'36-'38;M'45), Engr. Editor, Railway Age., 105 W. Adams St., 3.
 Dickey, Diamond S. (J'36;A'40), Partner, Murphy and Dickey, 537 S. Dearborn St., 5.
 Diener, John A. (M'48), Partner, Brown, Jackson, Boettcher & Diener, 53 W. Jackson St., 4.
 Dietrich, H. A. (J'43;A'44), 1018 N. Karlov Ave., 15.
 Dietrich, Otto A. (M'38-'43;'48), Power Engr.-State Area, Illinois Bell Telephone Co., 212 W. Washington St., 6.

Dike, Chester T. (M'01), Retired, 503 N. Washington Ave., Mason City, Iowa.
 Dillon, J. Robert (A'47), Sales Engr., Sauerman Bros., Inc., 522 S. Clinton, 7.
 Dingle, Gordon K. (J'48), Air Cond. Sales Engr., L. C. Kohlman, Inc., 724 W. Washington Blvd., 6.
 Dinsdale, David A. (J'27;A'35;M'44), Engr., Commonwealth Edison Co., 2233 S. Throop St., 8.
 Dixon, Marvin H. (S'24;J'26;A'31), Power Engr., St. Regis Paper Co., 230 Park Ave., New York 17, N. Y.
 Dobbert, Bert E. (A'48), Pres., Trimon Elevator Co., Inc., 737 W. Monroe St., 6.
 Dobry, L. F. (M'47), Ch. Chem. Engr., DeLeuw, Cather & Co., 150 N. Wacker Dr., 6.
 Dodds, Earl B. (M'40), P.B.X. Equip. Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
 Dodge, F. E. (M'24), Retired, 301 S. Eighth St., New Hyde Park, N. Y.
 Doering, Heinz G. (A'48), Devel. Engr., Chicago Transit Authority, 3901 West End Ave., 24.
 Doering, John P., Jr. (S'48), 6118 N. Sheridan Rd., 40.
 Doerr, Charles (A'20;M'37), Supv. Engr., General Electric Co., 840 S. Canal St., 80.
 Dolgos, Joseph J. (J'27;Aff'32), Asst. Area Supv., Public Service Company of Northern Illinois, 423 Childs St., Wheaton, Ill.
 D'Olive, Eugene R. (A'24-'34;M'47), Engr., Illumination, Commonwealth Edison Co., 2233 S. Throop St., 8.
 Dollinger, F. A. (A'36;M'45), Contr. Engr., Mississippi Valley Structural Steel Co., Melrose Park, Ill.
 Dolphin, W. B. (A'43), Cons. Engr., 407 S. Dearborn St., 5.
 Domville, Charles H., Jr. (A'41;M'46), Plant Engr., Caspers Tin Plate Co., 4100 W. 42nd Pl., 32.
 Doolittle, Robert B. (A'48), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
 Dopp, C. A. (M'24), Dir. Engr. Crane & Co., 836 S. Michigan Ave., 5.
 Dopp, Kenneth T. (A'46), Heating Engr., Bell & Gossett Co., 8200 N. Austin, Morton Grove, Ill.
 Dore, Arthur J. (J'35;A'39), Ch., Land Lines Installation, Civil Aeronautics Administration, Orchard Airport, Park Ridge, Ill.
 Dose, Henry F. (M'96), Retired, 3539 Pestaluzzi St., St. Louis, Mo.
 Doubek, Clifford J. (S'48), 9300 S. Racine Ave., 20.
 Dougherty, Edward A. (M'41), Ch. Engr., Lines West, New York Central System, LaSalle & Van Buren Sts., 5.

Downes, Wm. E., Jr. (S'25-'27;M'47), Engr., Comm. of P. Wks., City of Chicago, City Hall, 2.
 Doyle, Thomas M. (Aff'47), Supv., Overhead Maintenance, Commonwealth Edison Co., 140 S. Dearborn St., 3.
 Draffin, Jasper O. (M'34), Prof., Theoretical & Applied Mechanics, University of Illinois, Urbana, Ill.
 Dring, George W. (Aff'46), Drafting Room Group Leader, Babcock & Wilcox Co., 5 S. Wabash Ave., 3.
 Drought, Orville H. (J'10;A'15), Struct. Designer, Bureau of Bridges & Public Buildings, City Hall, Milwaukee 2, Wis.
 Druhan, John L. (M'44), Cons. Engr., P. O. Box 435, Libertyville, Ill.
 Du Chatellier, Raoul (S'46), 7633 S. Union Ave., 20.
 Dudley, Wilton R. (M'48), Cross Bar Dial Traf. Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
 Duffy, James F. (M'43), Prop., J. F. Duffy, 563 Fulton St., 6.
 Duke, Charles S. (M'21), Grand Hotel, Charlotte Amalie, St. Thomas, Virgin Islands.
 Duner, Joseph A. (Aff'48), 719 Naper-ville Rd., Wheaton, Ill.
 Dunkelberg, Paul (M'48), Supv. Inspr., Hartford Steam Boiler Inspection & Installation Co., 120 S. LaSalle St., 3.
 Dunn, Andrew C. (A'44;M'48), Ch. Engr., The Catholic Cemeteries, 109 N. Dearborn St., 2.
 Dunn, Frederick (S'48), 2501 Leland Ave., 25.
 Dutcher, John E. (M'26), Mech. Engr., Schmidt, Garden & Erikson, 104 S. Michigan Ave., 3.
 Dykstra, Andrew N. (M'47), Section Head, Pullman Standard Car Mfg. Co., 10900 Cottage Grove Ave., 28.
 Eaton, George S. (A'18;M'32), Exec. Sec'y., National Tool & Die Manufacturers Assn., Union Commerce Bldg., Cleveland 14, Ohio.
 Eddy, Harold T. (A'28-'30;M'47), Div. Engr., Public Service Company of Northern Illinois, 1701 S. First Ave., Maywood, Ill.
 Edwards, Frank W. (M'48), Dir., Dept. of Civil Engr., Illinois Institute of Technology, 3300 Federal St., 16.
 Egeland R. (J'17;A'21;M'28), Dist. Plant Engr., Illinois Bell Telephone Co., 416 So. Madison St., Rockford, Ill.
 EGLOFF, Gustav (M'36) (1st Vice Pres.), Dir., Research, Universal Oil Products Co., 310 S. Michigan Ave. 4.
 Eilers, Baldwin C. (J'28;A'30-'33;M'47), Prin. Asst. Sewer Designer, Bureau of Sewers, City of Chicago, 188 W. Randolph St., 1.
 Eiserer, Adolph F. (M'20), Cons. & Const. Engr., 327 S. LaSalle St., 4.



Power Equipment

Turbo-Generators - Transformers
Switch Gear

D. MERRILL—Member W.S.E.

Merrill and Company

407 S. Dearborn Street

Chicago

HA rrrison 7-8289

Boilers
Engines
Diesels
M.G. Sets
Motors

NATIONAL SURVEY SERVICE, INC.

S. PASQUINELLI, M.W.S.E.



REGISTERED LAND SURVEYOR

ILLINOIS & INDIANA

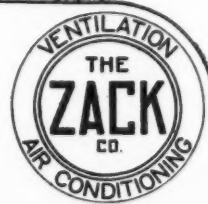
Precise Construction Surveys

Accurate Land Boundary Surveys

134 N. LaSalle St., Chicago, Ill.

RA ndolph 6-7609

2311 VAN BUREN ST.



SE eley 3-4254-5-6

- Ek, Thomas I.** (M'47), Staff Engr., DeLeuw, Cather & Co., 150 N. Wacker Dr., 6.
- Ekblaw, George E.** (M'32), Head, Div. of Engrg. Geology & Topographic Mapping, Illinois State Geological Survey, Urbana, Ill.
- Elder, Clarence H.** (A'28;M'44), Plant Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- ELFSTROM, Philip R.** (M'35) (Past President), Vice Pres. & Gen. Mgr., Chicago, Aurora & Elgin R. R., 108 N. Main St., Wheaton, Ill.
- Ellerton, George, Jr.** (M'44), Vice Pres., Faville-LeValley Corp., 105 W. Adams St., 3.
- Ellertson, Wollert R.** (A'48), Engr. Draftsman, Sauerman Bros., Inc., 522 S. Clinton St., 7.
- Ellin, Frederick I.** (A'46), Devel. Engr., Ohmite Mfg. Co., 4835 W. Flournoy St., 44.
- Ellington, J. F.** (M'20), Pres., The Ellington Miller Company, 25 E. Jackson Blvd., 4.
- Elliot, Jefferson B.** (A'28-'33;A'44), Ch. Draftsman, W. R. Bendy, 9403 River-view Dr., St. Louis 15, Mo.
- Elliott, Ernest E.** (A'24-'31;M'46), Vice Pres., Hawkins Electric Co., 1445 W. Washington Blvd., 7.
- Elliott, Wallace W.** (A'48), Supv., At-tended Substation, Commonwealth Edison Co., 2640 S. Wabash Ave., 16.
- Ellis, Holbert W.** (A'28-'35;M'47), Div. Sales Mgr., Public Service Company of Northern Illinois, Box 278, Glencoe, Ill.
- Emmert, Roy W.** (M'19), Pres., Casey & Emmert, Inc., 130 N. Wells St., 6.
- Enander, E. H.** (M'19), Asst. to Vice Pres., (Gas) Public Service Company of Northern Illinois, 72 W. Adams St., 3.
- Enander, John O.** (J'47), Methods Engr., Thor Corporation, Cicero, Ill.
- Eneborg, Carl G.** (S'29;J'31;A'33;M'43), Devel. Engr., Sears Roebuck & Co., 925 S. Homan Ave.
- Enger, Melvin L.** (M'35), Dean of Engrg.; Dir., Engrg. Exp. Sta., Uni-versity of Illinois, Urbana, Ill.
- Engh, Harry M.** (A'14;M'25), Pennsylv-ania Telephone Corp., 20 E. Tenth St., Erie, Pa.
- Engler, Charles** (M'46), Asst. to Loss Prevention Mgr., Montgomery Ward & Co., 619 W. Chicago Ave.
- Engquist, E. B.** (A'40), Asst. Engr., Station Design, Commonwealth Edi-sion Co., 72 W. Adams St., 90.
- Enright, Neil F.** (A'48), Manual & Station Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.
- Ephgrave, John O.** (A'36), Mgr., City Coal & Coke Co., 1821 E. End Ave., Chicago Heights, Ill.
- Eppel, Simeon L.** (A'41), 135-28—78th Ave., Flushing, N. Y.
- Epstein A.** (M'19), Pres., A. Epstein and Sons, Inc., 2011 W. Pershing Rd., 9.
- Epstein, Hirsch** (M'43), Advance Trans-former Co., 1122 W. Catalpa Ave., 40.
- Erdal, Ingolf** (M'20), Partner, Hazelet & Erdal, 53 N. Jackson Blvd., 4.
- Erickson, Alfred G.** (S'48), 7550 Ridge-land Ave., 49.
- Erickson, Donald H.** (A'46), Engr., Dial Equip. Engrg. Dept., Illinois Bell Telephone Co., 212 W. Washington St., 6.
- Erickson, Harry A.** (A'41;M'47), Dir. of Engrg., D. A. Stuart Oil Co., Ltd., 2727 W. Troy St., 23.
- Erickson, Ray F.** (Aff'34;J'38;A'40), Plant Layout Engr., Signode Steel Strapping Co., 2600 N. Western Ave., 47.
- Ericson, Rudolf T.** (M'47), Com. Engr., Illinois Bell Telephone Co., 230 W. Washington St., 6.
- Ericsson, Clarence E.** (M'48), Vice Pres. & Sec'y., Henry Ericsson Com-pany, 228 N. LaSalle St., 1.
- Ericsson, Dewey A.** (M'48), Vice Pres., Henry Ericsson Company, 228 N. LaSalle St., 1.
- Erjavac, Anthony J.** (S'48), 3544 S. Maplewood Ave., 32.
- Eshbach, Ovid W.** (M'41), Dean, North-western Technological Institute, Evanston, Ill.
- Esmiol, Clifford F.** (A'46), 10510 Calu-met Ave., 18.
- Essington, Harry M.** (M'30), 114 S. Elmhurst Ave., Mt. Prospect, Ill.
- Euler, Fred C.** (M'47), Ch. Engr., Chicago Athletic Assn., 12 S. Michi-gan Ave., 3.
- Evans, Wm. G.** (M'09), Retired, 7617 Crandon Ave., 49.
- Everhard, E. P.** (M'26), Vice Pres., Wm. A. Pope Co., 26 N. Jefferson St., 6.
- Everly, Robert E.** (M'46), Supt. of Parks, Glencoe Park Dist, Village Hall, Glencoe, Ill.
- Ewald, Leonard E.** (M'48), Supt., Wiring Inspection Div., Common-wealth Edison Co., 72 W. Adams St., 90.
- Ewers, E. A.** (A'40;M'44), Spec. Prac-tices Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.
- Ewing, Gerald E.** (S'40;J'42), 311 S. Morris, Bloomington, Ill.
- Eyer, Robert F.** (A'36), Power Engr., Public Service Company of Northern Illinois, 1701 S. First Ave., Maywood, Ill.
- Fahey, Wm. M.** (S'48), 1310 Albion Ave., 26.
- Fairbairn, W. J.** (M'34), Engr., Factory Insurance Association, 175 W. Jack-son Blvd., 4.
- Fairhall, W. M.** (S'32;J'35;A'38), Project Mgr., Skidmore, Owings & Merrill, P. O. Box 385, Oak Ridge Tenn.
- Fajnor, Edward** (S'48), 4704 N. Kil-bourn Ave., 30.
- Fako, Paul** (A'48), Engr., Illinois Bell Telephone Co., 208 S. Washington St., 6.
- Fallon, Bernard J.** (M'20), Chicago Transit Authority, 79 W. Monroe St., 3.
- Farrell, Fred** (M'25-'31;'37-'40;'43), Mfrs. Rep., 3741 Center Point Rd., Cedar Rapids, Iowa.
- Farrelly, Joseph L.** (M'36), Arch'l. Engr., Board of Education, 228 N. LaSalle St., 1.
- Faulkner, F. L., Jr.** (S'48), 7050 East End Ave., 49.
- Faville, Frederick A.** (M'47), Pres., Faville-LeValley Corp., 105 W. Adams St., 3.
- Feddeler, Melvin E.** (M'36-'39;'47), 228 N. LaSalle St., 1.
- Fencil, Richard G.** (A'38;M'44), Asst. Traffic Engr., Chicago Park District, 425 E. 14th Blvd., 5.
- Fenton, Lewis T.** (M'47), Sr. Engr., Commonwealth Edison Co., 72 W. Adams St., 90.
- Ferguson, Farley S.** (J'26;A'27-'35;M'44), Supvy. Engr., Struct. Div. (Argonne National Laboratory), The Austin Co., P. O. Box 311, La Grange, Ill.
- Ferguson, Louis A., Jr.** (A'28-'36;'47), Mgr., Public Rel. & Cust. Serv., Commonwealth Edison Co., 72 W. Adams St., 90.
- Ferguson, Lester M.** (M'48), Designing Engr., Sinclair Refining Co., 13500 Indianapolis Blvd., East Chicago, Ind.
- Ferguson, Wm. B.** (M'48), Elect. Engr., Freyn Engineering Co., 109 N. Wabash Ave., 2.
- Fetters, Donald W.** (M'47), Vice Pres., Gerhardt F. Meyne Co., 7 S. Dear-born St., 3.
- Ficarratto, Sado C.** (J'33;A'37), Struct. Engr., U. S. Engineer Office, 222 W. North Bank Dr., 54.
- Fiechl, Anton** (A'26), 681½ Wright-wood Ave., 14.
- Field, Edward A., Jr.** (A'31), Engr., H. D. Conkey & Co., Mendota, Ill.
- Field, Horace H.** (M'20), Public Ser-vice Company of Northern Illinois, 72 W. Adams St., 3.
- Filippi, Gottlieb** (A'13;M'22), 10844 Edbrooke Ave., 28.
- Filippi, Hugo** (M'20), Vice Pres., Illinois Brick Co., 228 N. LaSalle St., 1.
- Findlater, William E.** (A'20), Struct. Engr., American Bridge Co., 208 S. LaSalle St., 4.
- Fink, M. H.** (M'45), Dist. Plant Engr., Illinois Bell Telephone Co., 5643 N. Broadway, 40.

The OFFICIAL POCKET SEAL



Preferred by
Thousands of
REGISTERED
PROFESSIONAL
ENGINEERS

Price \$7.00 — 1 Day Service

American Seal & Stamp Co.

32 S. Clark St. Chicago 3, Ill.

Phones: RA ndolph 6-1731 CE ntral 6-3655

ANNING-JOHNSON COMPANY

Engineers - Contractors

- Structural Roof Decks
- U. S. Gypsum Acoustical Products
- Fireproofing
- Kawneer Doors

1514 W. Van Buren Street

Chicago 17, Illinois

Ch. 3-7020

ROBERT W. HUNT COMPANY ENGINEERS

Inspection • Tests
Consultation

• Engineering Materials

• Cement • Concrete • Chemical
Physical and Metallurgical
Laboratories

173 W. Jackson Blvd., CHICAGO, And All Large Cities

MEMBERSHIP

- Finlay, Samuel** (J'36;A'39), Goodman Mfg. Co., 4835 S. Halsted St., 9.
- Finlayson, J. A.** (S'48), 1817 S. Springfield Ave., 23.
- Fischer, F. W.** (M'89), Retired, 9226 Phillips Ave., 17.
- Fischer, Paul O.** (A'35;M'47), Zoning Engr., Chicago Regional Planning Association, 79 W. Monroe St., 3.
- Fitch, James C.** (J'28;A'32;M'47), Asst. Supt., Struct. & Mech. Div., Commonwealth Edison Co., 72 W. Adams St., 90.
- Fitts, Joel A.** (M'22), Sales Engr., The Electric Storage Battery Co., 5335 S. Western Ave., 9.
- Fitzgerald, Arthur T.** (S'49), 1850 S. 61st Ct., Cicero 50, Ill.
- Fitzgerald, Thos. C.** (A'36;M'47), Machine Designer, Western Electric Co., Inc., Hawthorne Works, 23.
- FitzPatrick, John P.** (J'39;A'41), Sr. Engr., Argonne National Laboratory, P. O. Box 5207, 80.
- Fixman, I. M.** (M'44), Elect. Engr., Hub Electric Company, 2219 W. Grand Ave., 12.
- Fixmer, H. J.** (J'08;A'11;M'27), Asst. Engr., Bureau of Streets, City of Chicago, City Hall, 2.
- Fizzell, J. A.** (A'39), Ch. Prod. Engr., Illinois Testing Labs., Inc., 420 N. LaSalle St., 10.
- Flanagan, John E.** (M'36), Pres., Post Electric Co., 327 S. LaSalle St., 4.
- Fletcher, E. N.** (M'40), City Engr., City of Des Plaines, Municipal Bldg., Des Plaines, Ill.
- Flinn, Walter H., Jr.** (A'48), Div. Plant Supv., Illinois Bell Telephone Co., 20 N. Wacker Dr., 6.
- Flood, Paul E.** (J'48), Research & Devel. Engr., Precision Scientific Co., 3737 W. Cortland, 47.
- Flood, Walter H.** (M'20), Owner, Walter H. Flood & Co., 6102 S. Blackstone Ave., 37.
- Flook, Lyman R.** (M'29), Planning Engr., Argonne National Laboratory, P. O. Box 351, LaGrange, Ill.
- Floor, Erik** (M'26), Owner, Erik Floor & Associates, 139 N. Clark St., 2.
- Florentine, Frank D.** (A'47), Partner, Monarch Electric Co., 2807 W. 63rd St., 29.
- Floryan, John E., Jr.** (S'47;J'48), Field Const. Engr., Parkhill-Wade Co., 5017 E. Anaheim Telegraph Rd., Los Angeles 22, Calif.
- Floto, Julius** (M'05), Retired, 1051 Union St., Manchester, N. H.
- Floyd, W. H., III.** (M'36), Sr. Engr.-Elect., Hdqrs., U. S. Air Force, The Pentagon, Washington 25, D. C.
- Foit, Otto L.** (A'41), Mech. Engr., Western Electric Co., Inc., Hawthorne Works, 23.
- Ford, Clem C.** (M'20), 307 N. Michigan Ave., 1.
- Ford, Frank E.** (A'45), 406 S. Union St., Aurora, Ill.
- Ford, Howard E.** (Aff'46), Div. Vice Pres., Public Service Company of Northern Illinois, 1701 S. First Ave., Maywood, Ill.
- Ford, Tenney S.** (M'17), Engr. of Sewer Const., City of Chicago, City Hall, 2.
- Foschinbaur, L. A.** (M'46), Mgr. Engrg. Dept., Marsh & McLennan, Inc., 231 S. LaSalle St., 4.
- Fosco, Alfred** (M'45), Asst. Engr., Chicago Park District, 425 E. 14th Blvd., 1.
- Fosnot, Harold R.** (A'46), Dist. Sales Mgr., Graver Tank & Mfg. Co., Inc., 332 S. Michigan Ave., 4.
- Foster, Edmund R.** (M'43), Sr. Engr., Jackson & Moreland, 31 St. James Ave., Boston, Mass.
- Fowler, Edwin** (M'11), Retired, Box 140, R. R. 1, Oshkosh, Wis.
- Fowler, Myron M.** (J'04;M'06), Retired, 715 N. Kenilworth Ave., Oak Park, Ill.
- Fowler, Ralph R.** (A'34;M'43), Apparatus Engr., Automatic Electric Co., 1033 W. Van Buren St., 7.
- FOX, E. Gordon** (M'21) (Past President), Vice Pres., Freyn Engineering Co., 109 N. Wabash Ave., 2.
- Fox, John P.** (A'46), Engr., Tech. Operating Dept., Public Service Company of Northern Illinois, 1701 S. First Ave., Maywood, Ill.
- Frame, Richard P.** (S'29;J'30-'34;M'47), Civil Engr., Holabird & Root & Burgee, 180 N. Wabash Ave., 1.
- Frandsen, N. P.** (M'03), Struct. Engr., 4 Smithfield St., Pittsburgh 22, Pa.
- Frangquist, E. E.** (A'28-'36;M'48), Dist. Plant Engr., Illinois Bell Telephone Co., 5643 Broadway, 40.
- Frank, Joseph W.** (M'47), Tech. Asst. Insp. Dir., Insp. of Naval Material, U.S.N., 141 W. Jackson Blvd., 4.
- Franson, Chas. F.** (M'89), Address unknown.
- Frederick, F. G.** (M'36), I. H. B. R.R., Gibson, Hammond, Ind.
- Fredrick, T. C.** (M'44), 150 N. Wacker Dr., 6.
- Freely, James A.** (A'43), Plant Supv., Installation, Illinois Bell Telephone Co., 212 W. Washington St., 6.
- Freiberg, Frederick A.** (A'39-'42;M'43), Struct. Engr., Sargent & Lundy, 140 S. Dearborn St., 3.
- Frick, Carl E.** (M'46), Tech. Dir., Van Cleef Bros., Inc., 7800 Woodlawn Ave., 19.
- Frick, O. H.** (M'41), 210 S. Canal St., 6.
- Friedlaender, W. V.** (A'40), Research Engr., Universal Atlas Cement Co., Buffington Sta., Gary, Ind.
- Fritch, Louis C.** (A'10;M'37), Retired, 2265 E. Orange Grove Ave., Pasadena 7, Calif.
- Fruehlich, R. S.** (A'46), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Frost, Oscar** (M'36), Dist. Engr., Div. of Highways, State of Illinois, Mt. Hawley Rd., Peoria, Ill.
- Fruechtel, Joseph H.** (A'46), Const. Expediter, Kraft Foods Company, 500 Peshtigo Ct., 90.
- Fry, August J.** (M'19), Asst. Engr., Board of Supervising Engineers, 231 S. LaSalle St., 4.
- Fry, O. E.** (Aff'48), Asst. to Div. Vice Pres., Public Service Company of Northern Illinois, 1701 S. First St., Maywood, Ill.
- Fucik, E. James** (J'02;M'10), Retired, 2767 S. Deere Park Dr., Highland Park, Ill.
- Fuhrer, Max** (J'24;A'26-'35;M'37), Eugene & Max Fuhrer, 120 S. LaSalle St., 3.
- Fuller, D. William** (M'48), Dist. Rep., Champion Lamp Works, Div. of Consolidated Elect., 2335 E. 71st St., 49.
- Futrell, W. D.** (A'40), Tele. Equip. Engr., Western Electric Co., Inc., Hawthorne Works, 23.
- Gabbard, Louis C.** (A'48), Illinois Bell Telephone Co., 208 W. Washington, 6.
- Gaensslen, Carl A.** (A'13;M'20), Sr. Designing Engr., City of Chicago, City Hall, 2.
- Galandak, John** (S'35;J'37;A'44), Water Treatment Engr., Graver Tank & Mfg. Co., 4809 Tod Ave., East Chicago, Ind.
- Gallagher, John D.** (S'24;J'26;A'29-'34;M'45), Supv. Engr., Hartford Accident Indemnity Co., 175 W. Jackson Blvd., 4.
- Gallicchio, Frank V.** (A'28-'34;M'48), Supv. Engr., Commonwealth Edison Co., 72 W. Adams St., 90.
- Gallup, Benton B.** (A'48), Sr. Engr., Const. Dept., Commonwealth Edison Co., 72 W. Adams St., 90.
- Gansslen, H.** (A'07), 209 N. Lombard, Oak Park, Ill.
- Garlick, David J.** (S'47), Jr. Engr., E. R. Gritschke, 11 S. LaSalle St., 3.
- Garrison, Chas. K.** (A'46), Vice Pres., Chicago Steel Foundry Co., 3720 S. Kedzie Ave., 32.
- Gates, L. Dean** (M'48), Asst. Vice Pres., The L. E. Myers Co., 53 W. Jackson Blvd., 4.
- Gauthier, William D.** (S'48), Elect. Engr., Chrysler Corp., 12260 Oakland, Detroit, Mich.
- Gavin, Richard I.** (J'48), Mech. Engr. (Jr.), Sargent & Lundy, 140 S. Dearborn St., 3.
- Gawin, Stanley W.** (A'47), c/o Navy Inspector, 226 W. Jackson Blvd., 6.
- Gayman, Bert A.** (M'07), Retired (Mem. of Board, Link-Belt Co.), 555 Occidental Ave., San Mateo, Calif.
- GEAR, Harry B.** (M'07;Hon.M'47) (Past President), Retired, 10018 Bell Ave., 43.
- Gebhardt, Geo. F.** (M'07), Retired, 469 N. E. 69th St., Miami 38, Fla.
- Gebhardt, John W.** (S'41;J'42), Carpenter, John Gebhardt & Son, 308 W. Washington St., 6.
- Gehle, Fred C.** (J'43;Aff'46), Chemist, Western Electric Co., Inc., Hawthorne Works, 23.

SARGENT & LUNDY

ENGINEERS

140 S. Dearborn Street

CHICAGO, ILLINOIS

CHICAGO STEEL FOUNDRY CO.

3720 S. Kedzie Ave. Chicago 32, Ill.

PYRASTEEL

For Heat and
Corrosion Resistant
Alloy Castings

EVANSTEEL

For Shock and
Abrasion Resistant
Alloy Castings

Our Engineers Are Available
for Consultation

- Gellert, Louis W.** (A'45), Sanitary & Htg. Engr., DeLeuw, Cather & Co., 150 N. Wacker Dr., 6.
- Genkinger, Herman N.** (S'23;J'25;A'27;M'37), Elect. Foreman, Public Service Company of Northern Illinois, Greenwood Ave., Waukegan, Ill.
- Gent, Abel H.** (M'46), Engr., Illinois Inspection Bureau, 309 W. Jackson Blvd., 6.
- Gerba, Alex, Jr.** (J'47), Student Engr., Automatic Electric Co., 1033 W. Van Buren St., 7.
- Gerber, Arthur U.** (M'20), Chicago Transit Authority, 79 W. Monroe St., 3.
- Gerber, Winfred D.** (M'10), Retired, 406 W. Florida Ave., Urbana, Ill.
- Gerdes, William F.** (M'30), Pres. & Mgr., Michelmann Steel Construction Co., 137 N. Second St., Quincy, Ill.
- Gerlach, Howard P.** (M'48), Mgr., Chgo. Of., John W. Harris Associates, Inc., 134 S. LaSalle St., 3.
- Geyer, Robert C.** (M'46), Asst. Engr., Bldg. Design, Public Service Company of Northern Illinois, 72 W. Adams St., 3.
- Ghiselli, Wm. A., Jr.** (J'47;A'48), Mach. Designer, Caspers Tin Plate Co., 4100 W. 42nd St., 32.
- Gibson, Floyd D.** (M'46), Supv. Engr., Commonwealth Edison Co., 72 W. Adams St., 90.
- Gifford, Robt. L.** (M'97), 1231 S. El Molino Ave., Pasadena 5, Calif.
- Gilbert, H. C.** (M'20-'28;'44), Const. Engr. & Sec'y., Jackson Electrical Construction Co., Inc., 111 W. Washington St., 2.
- Giles, Arthur G.** (J'24;A'27;M'37), Prof., Illinois Institute of Technology, 3300 Federal St., 16.
- Gilkey, H. J.** (M'20), Hd., Dept. of Theo. and Applied Mechanics, Iowa State College, Ames, Ia.
- Giller, Clyde E.** (A'41), Supv., of Traffic Quarters, Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Giller, William C.** (A'46), Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.
- Gillespie, S. E.** (M'39), Vice Pres., Western Railroad Supply Co., 2428 S. Ashland Ave., 8.
- Gilman, Brice E.** (A'43), Assoc. Staff Engr., Standard Oil Co. (Ind.), 119th & Front Sts., Whiting, Ind.
- Gilman, Turner W.** (A'40;M'45), 746 S. Lyman Ave., Oak Park, Ill.
- Gilmore, L. H.** (A'28), Holly Hill, S. C.
- Gilroy, Edward** (M'20), Retired, 9649 S. Hamilton Ave., 43.
- Gilruth, Jas. C.** (Aff'40), Dir., Public Relations, Illinois Automobile Club, 2400 S. Michigan Ave., 16.
- Girard, James B.** (M'01), Cons. Engr., 20 S. Central Ave., Phoenix, Ariz.
- Girard, Peter F., Jr.** (M'36), Engr. of Sewer Design, Sanitary District of Chicago, 910 S. Michigan Ave., 5.
- Gleick, J. T.** (A'30;M'42), Supv., Sales Dept. & Asst. to Vice Pres., Podbielniak, Inc., 341 E. Ohio St., 11.
- Glick, J. Robert** (M'48), Civil Engr., Ralph H. Burke, 20 N. Wacker Dr., 6.
- Gnaedinger, John Phillip** (J'46), Struct. Designer, Shaw, Metz & Dolio, 208 S. LaSalle St., 4.
- Gockman, Edward C.** (S'48), 9333 S. Throop St., 20.
- Godfrey, Charles E.** (A'46), Engr., Ramapo Ajax Div., American Brake Shoe Co., 109 N. Wabash Ave., 2.
- Godfrey, Harold E.** (M'48), Proj. Engr., F. H. McGraw & Co., 910 S. Michigan Ave., 5.
- Goetz, Edwin W.** (A'20-'28;M'44), Pres., Goetz Elevator Co., 1338 W. Washington St., 7.
- Goetz, Martin H.** (M'28-'31;'44), 8214 Dorchester Ave., 19.
- Goetz, Maurus T.** (M'43), Engr. of Prod. Devel., Teletype Corp., 1400 Wrightwood St., 14.
- Golden, Milton E.** (M'44), GoldE Mfg. Corp., 1222 W. Madison St., 7.
- Goldman, B. F.** (M'43), Ch. Engr., The Nichols Engineering Co., 2400 W. Madison St., 12.
- Goldsby, Fred L.** (M'42), Mgr. of Foreign Erection, Chicago Bridge & Iron Co., 165 Broadway, New York 6, N. Y.
- Goldstein, Milton** (S'41;J'43), American Television, Inc., 5050 Broadway, 40.
- Golick, Richard** (S'48), 4743 Drexel Blvd., 15.
- Golightly, Russell H.** (A'48), Substation Operator-Elect., Commonwealth Edison Co., 72 W. Adams St., 90.
- Gonnerman, H. F.** (M'27), Dir. of Research, Portland Cement Association, 33 W. Grand Ave., 10.
- Goodell, Floyd K.** (A'43), Struct. Engr., American Bridge Co., 208 S. LaSalle St., 4.
- Goodell, Stanley E.** (M'47), Sec. Engr., Commonwealth Edison Co., 72 W. Adams St., 90.
- Goodman, Edwin M.** (S'22-'24;J'25;A'27-'35;M'36-'43;'47), Bldg. Com., City of Evanston, 1025 Lake St., Evanston, Ill.
- Goodman, Hal W.** (A'29;M'35), Box 103, Lucasville, Ohio.
- Goodman, William E.** (A'24;M'47), Pres., Goodman Manufacturing Co., 4834 S. Halsted St., 9.
- Goodwin, L. Reeves** (M'20-'36;'47), Cons. Engr., 3959 W. Ogden Ave., 23.
- Gordinier, Leonard L.** (M'46), Dist. Plant Engr., Illinois Bell Telephone Co., 6317 Maryland Ave., 37.
- Gordon, Bruce A.** (M'47), Member, Bruce A. Gordon Co., 1 N. LaSalle St., 2.
- GORDON, F. G.** (M'28) (Past President), Asst. City Engr., City of Chicago, 220 S. State St., 4.
- Gordon, John J.** (M'40), 6839 Yale Ave., 21.
- Gore, G. D.** (M'41), 1707 Burlington, Downers Grove, Ill.
- Gore, Leonard E.** (J'48), Engrg. Draftsman, Babcock & Wilcox, 5 S. Wabash Ave., 3.
- Goss, H. A.** (A'28;M'37), Mech. Engr., Sargent & Lundy, 140 S. Dearborn St., 3.
- Gossett, E. J.** (M'36), Bell & Gossett Co., Morton Grove, Ill.
- Gosswein, O. H.** (A'20), Tech. Service Mgr., Universal Atlas Cement Co., 208 S. LaSalle St., 90.
- Gough, William I.** (J'24;A'27-'38;'47), Civil Engr., 2859 W. Washington St., 12.
- Gougler, J. H.** (M'28), Chgo. Dist. Mgr., W. G. Reichert Engineering Co., 11357 S. Michigan Ave., 28.
- Gould, G. Frederick** (A'47), Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.
- Gould, Harry** (M'36), Struct. Engr., Cook County Highway Dept., 160 N. LaSalle St., 1.
- Graf, William, Jr.** (A'48), Design Engr., Chicago Aerial Survey Co., 674 N. Kingsbury Ave., 10.
- Graf, William F.** (S'32;J'33;A'45), Cons., Engr., Wm. A. Graf & Son, 3257 W. 61st St., 29.
- Graham, Donald M.** (A'46), Proj. Planner, Providence Redevelopment Agency, City Hall, Providence 3, R. I.
- Graham, Lloyd D.** (A'46), Illinois Bell Telephone Co., 212 W. Washington St., 6.
- Grant, Richard J.** (A'39-'42;M'47), Sr. Engr., Commonwealth Edison Co., 72 W. Adams St., 90.
- Gray, Kline** (M'27), Dist. Sales Mgr., Ward Leonard Electric Co., 53 W. Jackson Blvd., 4.
- Gray, Walter B.** (M'43), Struct. Engr., Holabird & Root & Burgee, 180 N. Wabash Ave., 1.
- Graybill, K. W.** (A'34), Ch. Engr., Automatic Electric Co., 1033 Van Buren St., 7.
- Grayson, Frank M.** (A'46), Ch. Engr., Van Alstyne & Associates, 125 W. Chestnut St., 10.
- Greasley, Clarence** (J'36;Aff'37), Metallurgist, Electro-Motive Div., General Motors Corp., La Grange, Ill.
- Greeley, Samuel A.** (M'19), Partner, Greeley and Hansen, 220 S. State St., 4.
- Green, DeWitt C.** (J'28-'32;M'36), Fundamental Plans Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Green, George E.** (A'43), Commonwealth Edison Co., 72 W. Adams St., 90.
- Green, Jay D.** (M'47), Chem. Engr., Continental Can Co., Inc., 4633 W. Grand Ave., 39.
- Green, Ralph** (J'20;A'22-'32;M'36), Contr. Engr., Chicago Bridge & Iron Co., 332 S. Michigan Ave., 4.
- Greenawalt, W. L.** (A'40), Ch. Clerk, Metropolitan Plant Dept., Western Union Telegraph Co., 1029 W. Adams St., 7.
- Greene, William K.** (M'47), Asst. Div. Engr., American Bridge Co., 208 S. LaSalle St., 4.
- Greenhill, Harold** (A'20;M'27), 500 W. Division St., 10.
- Greenstein, Jerome** (S'48), 2256 N. Cleveland Ave., 14.

MEN OFFICE HELP WOMEN

**STENOGRAPHERS
TYPISTS — CLERKS**

SOMMER PERSONNEL SYSTEM

"Organization Builders"

**DE. 2-5850 31 N. State St.
Chicago, Ill.**

WM. E. SCHWEITZER & CO.

General Contractors

2207 Dodge Avenue

EVANSTON, ILLINOIS

AM 2-3489

GR 3-4414

★ ★ ★ ★

**Contractors for Industrial
Construction**

MEMBERSHIP

Gridley, Frederick R. (A'24), Struct. Engr., International Harvester Co., 180 N. Michigan Ave., 1.
Griessel, Mrs. Margaret F. (A'48), 1348 Cornelia St., 13.
Griffenhagen, E. O. (A'11;M'32), Sr. Partner, Griffenhagen & Associates, 333 N. Michigan Ave., 1.
Griffin, Sidney P. (A'28;M'37), Design Engr., Public Service Company of Northern Illinois, 72 W. Adams St., 3.
Griffith, L. F. (J'46), Mech. Engr., Henry Valve Co., 3260 Grand Ave., 51.
Griffiths, Kenneth J. (A'48), Sr. Plant Engr., Illinois Bell Telephone Co., 5643 Broadway, 40.
Grindel, John F. (A'47), Mech. Designer, The Peoples Gas Light & Coke Co., 122 S. Michigan Ave., 3.
Grinter, L. E. (M'37), Research Prof., Illinois Institute of Technology, 3300 Federal St., 16.
Gritschke, E. R. (S'23;J'26;A'34;M'48), Owner, E. R. Gritschke, 11 S. LaSalle St., 3.
Groepper, Gerald W. (J'46;A'47), Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.
Gross, Maurice N. (S'48;J'48), Methods Analyst, Wieboldt's, Inc., 106 S. Ashland Ave., 7.
Gross, Ralph F. (M'38), Asst. City Traf. Engr., City of Chicago, City Hall, 2.
Grover, Donald K. (S'48), 4917 Drexel Ave., 15.
Grover, Earle W. (M'19), Retired, 6929 Stewart Ave., 21.
Groves, J. Osborn (M'46), Engr., Sandmann Engineering Co., 7934 S. Hoyne Ave., 20.
Gruber, Fred W. (S'48), 2045 W. 71st St., 36.
Grundvig, K. E. (M'44), Ch. Engr., Bucyrus-Erie Co., Monaghan Div., 931 N. Kilpatrick Ave., 51.
Gruener, P. M. (M'28), Dept. Mgr., Goodman Mfg. Co., 4834 S. Halsted St., 9.
Grydyk, Edmund J. (J'48), Mech. Engr., Marsh & McLennan, Inc., 231 S. LaSalle St., 4.
Guillemin, Victor (M'09), Retired, 7469 N. Lombardy Rd., Milwaukee 9, Wis.
Gunderson, Karsten E. (M'48), 7766 Sunset Dr., 35.
Gunlock, Virgil E. (M'44), Commissioner, Dept. of Subways & Superhighways, 20 N. Wacker Dr., 6.
Gurtler, W. A. (A'25-'32;M'36), Owner, W. A. Gurtler & Company, 6239 S. Ashland Ave., 36.
Guske, James A. (S'48), 4009 W. Nelson St., 41.
Gustavson, G. E. (A'48), Asst. Dist. Foreman, Commonwealth Edison Co., 72 W. Adams St., 90.
Gutgsell, L. M. (M'34-'37;47), Chairman of the Board, Appraisal Engineering Corporation, 173 W. Madison St., 2.
Guy, Erven, M. (J'24;A'27-'33-'36), Asst. Internal Auditor, Chicago Transit Authority, 175 W. Jackson Blvd., 90.
Guynn, N. P. (M'28), Appropriation Control Engr., Carnegie-Illinois Steel Corp., 3426 E. 89th St., 17.
Haas, Albert E. (A'46), Sr. Engr., Illinois Bell Telephone Co., 6317 Maryland Ave., 37.
Habel, B. Ralph (J'20;A'24;M'34), Dist. Engr., Ramapo Ajax Div., American Brake Shoe Co., 2503 Blue Island Ave., 8.

Habenicht, George C. (J'47), Asst. Engr., Public Service Company of Northern Illinois, 1001 S. Taylor Ave., Oak Park, Ill.
Hadsall, H. H. (J'99;M'03), Retired, 1121 E. 49th St., 15.
Hadsall, John M. (J'32;A'37), Adv. Dept., Link-Belt Co., 307 N. Michigan Ave., 1.
Hadwen, T. Lovel D. (M'99), Retired, 1140 N. LaSalle St., 10.
Haefner, John G. (M'29), Asst. Master Mech., Swift & Company, Union Stock Yards, 9.
Haeger, M. O. (M'45), Pres., Abell-Howe Co., 53 W. Jackson Blvd., 4.
Hagedorn, Harry P. (M'43), Engr. of Tests, City of Chicago, 3100 S. Sacramento Ave., 23.
Haigh, Arthur H. (M'20-'36;47), Pres., Joseph Haigh & Sons Co., 38 S. Dearborn St., 3.
Haldeman, Walter S. (M'38), Engr. Analyst in Charge, Association of Commerce, Chicago Budget, 69 W. Washington St., 2.
Hale, Edwin A. (M'46), Staff Engr., DeLeuw, Cather & Co., 150 N. Wacker Dr., 6.
Hall, Chas. F. (M'16-'23;45), Sr. Mech. Engr., Bridge Div., City of Chicago, City Hall, 2.
Hall, Frank B. (S'47), 1725 W. Wilson Ave., 40.
Hall, George S. (A'28;M'37), Staff and Personnel Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.
Hall, Merton G. (M'06), Cons. Engr., Hall Engineering Co., 112 N. 112th St., Centerville, Iowa.
Hallquist, Gunnar C. (A'43), Cons. Comb. Engr., Evanston Fuel & Material Co., 1320 Simpson St., Evanston, Ill.
Halperin, Herman (A'24;M'38), Sr. Staff Engr., Commonwealth Edison Co., 72 W. Adams St., 90.
Halvorsen, Ralph H. (A'47), Prod. Devel. Engr., Teletype Corp., 1400 Wrightwood Ave., 14.
Hamilton, George W. (M'28), Cons. Engr., 5406 Forty-third St., N.W., Washington 15, D. C.
Hamilton, Robert S. (S'48), 353 W. Englewood, 21.
Hammarborg, F. C. (M'48), 5401 Dorchester Ave., 15.
Hammer, Mahlon J. (M'13), Retired, Box 14, Beulah, Mich.
Hampe, George W. (A'36;M'44), Engr., Testing Dept., Commonwealth Edison Co., 2233 S. Throop St., 8.
Hanapel, Alfred J. (M'46), Outside Plant Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
Hand, Geo. W. (M'12), Retired, 412 Courtland Ave., Park Ridge, Ill.
Hansen, Donald W. (M'43), Busi. Research Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.

Hansen, Joseph (A'46), 7931 Birchdale Ave., 35.
Hanson, Carl D. (A'47), Elect. Engr., Shaw, Metz & Dolio, 208 S. LaSalle St., 4.
Hanson, Ralph M. (M'28-'35;48), Supv. Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.
Hanson, Robert M. (A'43), 850 Lake Shore Dr., 11.
Hardin, George D. (J'16;M'21), Owner, George D. Hardin, 3139 Indiana Ave., 16.
Harger, Kendrick (M'20), Dist. Engr., Div. of Highways, State of Illinois, 700 E. Norris Drive, Ottawa, Ill.
Harman, Jacob A. (M'90), Pres. & Ch. Engr., Jacob A. Harman, Inc., 144 Fredonia St., Peoria 5, Ill.
Harmas, Kearney E. (A'29-'38;M'45), Trunk & Toll Plant Engr., Illinois Bell Telephone Co., 215 W. Randolph St., 6.
Harmer, L. S. (M'28), Power Mgr., Missouri-Oahe Dist., Bureau of Reclamation, Box 825, Huron, S. D.
Harmon, Robert N. (A'47), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
Harrington, H. P. (M'20), 205 W. Wacker Dr., 6.
Harrington, Philip (M'19), Chairman, Chicago Transit Authority, 175 W. Jackson Blvd., 90.
Harrington, Stephen W. (A'28;M'47), Div. Serv. Mgr., Illinois Bell Telephone Co., 1025 Sunnyside Ave., 40.
Harris, Alfred E. (M'48), Staff Asst., Commonwealth Edison Co., 72 W. Adams St., 90.
Harris, Arthur R. (A'27;M'37), Engr. of Bridges, Chicago & North Western Ry. Co., 400 W. Madison St., 6.
Harris, H. A. (M'28), Retired, 604 S. Wesley Ave., Oak Park, Ill.
Hartman, John W. (A'48), Supv., Illinois Bell Telephone Co., 6317 Maryland Ave., 37.
Hartsell, Theodore D. (M'45), Div. Plant Engr., Illinois Bell Telephone Co., 6317 Maryland Ave., 37.
Hartt, J. S. (M'43), Cons. Engr., 327 S. LaSalle St., 4.
Hartzell, Emory F. (M'10), 418 W. 77th St., 20.
Hartzler, Melvin E. (M'26-'28;44), Ch. Engr., McKee Door Co., 85 Hanks, Aurora, Ill.
Harza, L. F. (M'24), Cons. Engr., Harza Engineering Company, 400 W. Madison St., 6.
Hasselbacher, H. H. (M'44), Gen. Supt., Telegraph, Burlington Lines, 547 W. Jackson Blvd., 6.
Hastrup, Harold K. (M'43), Sec'y. Treas. & Ch. Engr., Krol & Hastrup, Engineers, Inc., 542 S. Dearborn St., 5.

SAUERMAN BROS., Inc.

ENGINEERS AND MANUFACTURERS

Slackline Cableway Excavators
Power Drag Scrapers

Scraper Systems for Open Storage of
Coal and Bulk Materials

Toutline Conveying Cableways

522 S. Clinton St.

CHICAGO

AETNA

Plywood & Veneer Co.

1731 Elston Ave., Chicago 22, Ill.

ENGINEERING ADVICE
IN THE USE OF PLYWOOD

M. B. Wells

J. H. Sweeney

- Hatch, William E.** (A'48), Civil Engr. & Land Surveyor, Box 691, Hyannis, Mass.
- Hattis, Robert E.** (A'25;M'26), Partner, Robert E. Hattis, 223 W. Jackson Blvd., 4.
- Haugan, J. R.** (J'37-'39;A'45), Plant Engr., Union Special Machine Co., 400 N. Franklin St., 10.
- Haugland, Sigurd** (A'32-'35;43), Pub. Works Engr., Village of Winnetka, Village Hall, Winnetka, Ill.
- Haupt, C. W.** (J'19;A'23;M'47), Pres., Strobel Construction Co., 53 W. Jackson Blvd., 4.
- Hauslein, Harold F. W.** (M'48), 1110 Maple Ave., Evanston, Ill.
- Hausler, M. G., Jr.** (M'28), Retired, 7348 Paxton Ave., 49.
- Hauth, Chester W.** (M'47), Sec'y., Viking Automatic Sprinkler Co., 5520 N. Wolcott Ave., 40.
- Havens, George** (M'19), Partner, Bruce A. Gordon Co., 1 N. LaSalle St., 2.
- Havlic, A. C.** (M'48), C. O. Equip. Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.
- Hayburn, Thomas F.** (A'47), Ind. Engr., Elect., Commonwealth Edison Co., 72 W. Adams St., 90.
- Hayden, Carl F.** (M'42), Pres., Hayden and Company, 9 S. Clinton St., 6.
- Hayes, Robert D.** (A'34;M'42), 436 S. Stone Ave., La Grange, Ill.
- Haynes, Albert G.** (M'42), Ch. Engr. & Owner, Haynes Engineering, 2227 S. Tenth Ave., Maywood, Ill.
- Haynes, Charles J.** (M'28), Div. Mgr. of Industrial Sales, Public Service Company of Northern Illinois, Box 278, Glencoe, Ill.
- Hazard, W. A.** (M'03), Retired, 510 High St., Bethlehem, Pa.
- Hazekamp, Raymond W.** (J'27;A'32), Planning Cons., Raymond Wm. Hazekamp & Associates, 12761 Wallace St., 28.
- HEALD, Henry T.** (A'30;M'34) (Past President), Pres., Illinois Institute of Technology, 3300 Federal St., 16.
- Heald, James M.** (M'09), Retired, R. R. 1, Box 481A, Bellevue, Wash.
- Heaney, Thos. R., Jr.** (A'06), Sr. Engr., Illinois Bell Telephone Co., 131 N. Franklin St., 6.
- Heard, George W.** (A'28-'30;M'47), Supv., Rate Research, Commonwealth Edison Co., 72 W. Adams St., 90.
- HECHT, J. L.** (M'07;Hon.M'47) (Past President), Vice Pres., Public Service Company of Northern Illinois, 72 W. Adams St., 3.
- Heckel, Ervin J.** (A'33-'35;45), Ch. Engr., Clearing Industrial District, Inc., 6455 Central Ave., 39.
- Hedberg, G. F.** (M'20), 2852 N. Sawyer Ave., 18.
- Hedges, Henry M.** (M'40), Pres., Insulation Construction Co., 232 E. Erie St., 11.
- Hedstrom, Paul L.** (A'48), Commonwealth Edison Co., 140 S. Dearborn St., 90.
- Heeren, Martin H.** (M'45), Dir. of Research, Armour Research Foundation, 35 W. 33rd St., 16.
- Heidenrich, S. G.** (M'48), Supt. of Const. & Plant Engrg., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Heitner, W. A.** (J'24;A'26;M'38), 9427 S. Winchester Ave., 20.
- Heller, Mrs. F. M. H.** (Aff'33), 7152 Lowe Ave., 21.
- Heller, W. D.** (M'29), Const. Supt., Mines Engineering Co., 20 N. Wacker Dr., 6.
- Hellsen, Karl E. W.** (S'30;J'32-'37;A'41), Supt. Engr., United Engineers & Constructors, Inc., 1401 Arch St., Philadelphia 5, Pa.
- Helmer, Walter S.** (M'46), Gen. Supv. of Accident Prevention, Chicago Transit Authority, 79 W. Monroe St., 3.
- Hempelmann, Walter L.** (M'19), Dune Acres, Chesterton (P.O.), Ind.
- Henderson, Frank B.** (A'46), Engr., Bldg. Engrg. Dept., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Henderson, Roy M.** (M'07), Retired, 1735 Sunset Dr., Clearwater, Fla.
- Hendren, Robert F.** (J'24;A'29-'32;M'38), Mgr. of Plants, Chicago Bridge & Iron Co., 1305 W. 105th St., 43.
- Hendrickson, E. R.** (A'28-'35;M'45), Mgr. Div. Operation, Public Service Company of Northern Illinois, 1319 S. First Ave., Maywood, Ill.
- Henehan, Paul V.** (M'45), Civil Engr., The Peoples Gas Light & Coke Co., 122 S. Michigan Ave., 3.
- Heniades, James** (S'43;J'46), Jr. Draftsman, Pullman Standard Car Mfg. Co., 10909 Cottage Grove Ave., 28.
- Henkle, Herman H.** (Aff'48), Librarian, The John Crerar Library, 86 E. Randolph St., 1.
- Henneman, F. G.** (J'28;A'30;M'47), Engr., Commonwealth Edison Co., 72 W. Adams St., 90.
- Hennes, Charles F.** (M'48), Div. Gas Supt., Public Service Company of Northern Illinois, 918 University Pl., Evanston, Ill.
- Hensel, Frederick C.** (A'38), Salesman, Combustion Engineering Co., Inc., 105 W. Adams St., 3.
- Herbert, Peter P.** (A'46), 6320 N. Legett Ave., 30.
- Herlihy, C. J.** (M'45), 79 W. Monroe St., 3.
- Herlihy, Frank J.** (M'24), 79 W. Monroe St., 3.
- Herman, Herbert H.** (A'46), Mgr. Mech. Sec., Pioneer Service & Engineering Co., 231 S. LaSalle St., 4.
- Hermansen, Henry M.** (A'36;M'47), Draftsman, Beardsley & Piper, 2424 N. Cicero Ave., 39.
- Herold, P. J.** (A'18;M'23-'31;44), Retired, 455 Hyde St., San Francisco 9, Calif.
- Herr, C. C.** (M'48), Equip. Engr., Western Electric Co., Inc., Hawthorne Works, 23.
- Herron, James C.** (M'27-'43;47), Gen. Mgr. Industrial Woods, Inc., 537 S. Dearborn St., 5.
- Herschbach, Carl F.** (M'48), Asst. to Supt. of Transportation, Commonwealth Edison Co., 215 S. Morgan St., 7.
- Hershey, Harry E.** (M'20), Dir. of Tech. Publication, Automatic Electric Company, 1033 W. Van Buren St., 7.
- Herz, Alfred** (M'19), Retired, 1842 Morse Ave., 26.
- Heaky, Edward A.** (S'48), 3757 Broadway, Gary, Ind.
- Hess, Bryce M.** (M'20), Pres., The Hess Company, 1211 S. Western Ave., 8.
- Hess, F. A.** (S'22;J'24;A'29;M'38), Div. Engr., The Chicago River & Indiana R. R. Co.—Indiana Harbor Belt R. R. Co., Hammond (Gibson), Ind.
- Hess, R. Adair, Sr.** (M'44), Welding Engr., Robt. W. Hoffman Co., Inc., 10 S. Clinton St., 6.
- Hesse, Herman C.** (M'48), Prof. of Mech. Engrg., Illinois Institute of Technology, 3300 Federal St., 16.
- Heuman, Carl L.** (A'47), Asst. Supt., Commonwealth Edison Co., 2233 S. Throop St., 8.
- Hewitt, Ernest E.** (M'48), Dist. Mgr., Duncan Electrical Mfg. Co., 537 S. Dearborn St., 5.
- Hewson, J. F.** (M'26), Mgr. of Purchases, Standard Oil Company (Indiana), 910 S. Michigan Ave., 5.
- Hickey, Carl R.** (Aff'48), Gen. Com. Engr., Illinois Bell Telephone Co., 230 W. Washington St., 6.
- Hieronymus, John W.** (A'48), Supt. of Power, Public Service Company of Northern Illinois, 22 W. Cass St., Joliet, Ill.
- Hieronymus, Rex E.** (M'46), Member of firm, Aldis & Co., 53 W. Jackson Blvd., 4.
- Highly, Frank M.** (A'30;M'38), Contr. Mgr., Earth-Moving Equip., American Bridge Co., Gary, Ind.
- Hight, E. S.** (M'28), Delavan, Ill.
- Highwood, Donald H.** (A'36;M'45), 5118 S. Sacramento St., 32.
- Hill, Chas. O.** (M'44), Sr. Engr., J. L. Simmons Co., 2145 N. Woodford St., Decatur, Ill.
- Hill, Cyrus G.** (A'20;M'22), Cyrus G. Hill, Engineers, 231 S. LaSalle St., 4.
- Hill, Ole A., Jr.** (M'48), Div. Mgr., Com. Sales, Public Service Company of Northern Illinois, 1701 S. First Ave., Maywood, Ill.
- Hill, Theodore E.** (Aff'44;A'46), Pres., Inland Engineering, Inc., 1572 N. Halsted St., 22.
- Hiller, Joseph L.** (M'10), Prospect Rd., Mattapoisett, Mass.
- Hillis, George C.** (M'45), Gen. Insptr., Western Union Telegraph Co., 60 Hudson St., New York 13, N. Y.
- Hillman, F. W.** (J'05;M'10), Retired, 2707 Walnut Ave., Evanston, Ill.
- Hinch, Ralph J.** (M'48), Asst. Supt. of Const., Commonwealth Edison Co., 72 W. Adams St., 90.
- Hirth, Raymond C.** (S'40;J'43;A'47), Marine Engr., United States Marine Corps, 90 Broad St., New York, N. Y.
- Hoban, Charles O.** (M'47), Dist. Sales Mgr., The Babcock & Wilcox Company, 105 S. LaSalle St., 3.

S. E. BERKENBLIT

CONSULTING ENGINEER

★
Buildings, Structures, Foundations
Complete Mailing, Brewery and Food
Plants Design and Supervision

★
82 W. Washington St.
CHICAGO, ILL.

CONVEYOR SYSTEMS

Inc.

DESIGNERS
and
MANUFACTURERS
OF ALL TYPES
OF MATERIAL
HANDLING EQUIPMENT

★
325 SO. CALIFORNIA AVE.
CHICAGO, ILL.

Telephones: NE vada 8-1840-1-2

MEMBERSHIP

Hoban, J. Glenn, (M'44), Room 702, City Hall, 2.
Hoberg, F. J. (M'36), Engr. in Charge, Pennsylvania R. R. Co., Union Station, 6.
Hobson, Jesse E. (M'41), Dir., Stanford Research Institute, Stanford, Calif.
Hodgson, John G., Jr. (A'45), Partner, Ames Engineers, 343 S. Dearborn St., 4.
Hodgson, J. H. S. (M'24), 8340 Drexel Ave., 19.
Hodtun, Joseph B. (M'45), Central Station Engr., Allis-Chalmers Mfg. Co., Pittsburgh 12, Pa.
Hoeglund, K. C. (M'47), Plant Devel. Mgr., Bauer and Black, 2500 S. Dearborn St., 16.
Hoepfner, H. L. (A'23;M'47), Elect. Engr., Pioneer Service & Engineering Co., 231 S. LaSalle St., 4.
Hofer, Victor G. (M'39), Traf. Engr., Chicago Park District, 425 E. 14th Blvd., 5.
Hoff, Herbert C. (J'28;A'32), Staff Asst., Commonwealth Edison Co., 72 W. Adams St., 90.
Hoffenberg, Nathan (S'48), 1844 S. Central Park Ave., 23.
Hoffer, Wesley E. (J'29;A'32), 607 Gunderson Ave., Oak Park, Ill.
Hoffman, Leonard M. (S'47), 1977 1/2 Prospect Ave., Erie, Pa.
Hoffman, Milton (J'36-'39;M'47), Pres., Steno Mfg. Company, Inc., 609 W. Lake St., 6.
Hoffstetter, G. E. (M'45), Div. Traf. Insptr., Western Union Telegraph Co., 427 S. LaSalle St., 5.
Hohner, Fred W. (A'46), Dept'l. Engr. (Arch.), The Zia Company, Los Alamos, N. M.
Hollander, Geo. J. (M'38), Pres., Aviation Screw Products Co., 210 N. Carpenter St., 7.

ERIK FLOOR & ASSOCIATES, INC. ENGINEERS

Hydroelectric Developments

Hydraulic Structures
Reports—Investigations

139 N. Clark Street
CHICAGO 2, ILLINOIS

Spring - Mountings
Noise - Silencing - Hoods
Shock - Absorber
Mountings

CARL HUSSMAN
INCORPORATED
3001-07 N. Oakley Blvd.
CHICAGO, ILL.

Hollingsworth, F. H. (A'40), Illinois Bell Telephone Co., 208 W. Washington St., 6.
Holm, Gustave R. (Aff'47), Supv., Meter Testing, Commonwealth Edison Co., 3500 N. California Ave., 18.
Holmquest, Harold, Jr. (S'20;J'23;A'25;M'30), Engrg. & Prod. Mgr., Electromedical Prod., G. E. X-Ray Corp., 4855 W. McGeech Ave., Milwaukee, Wis.
Holt, Newton O. (M'20), Cont. Mgr., American Bridge Company, 208 S. LaSalle St., 4.
Holubow, Harry (A'44), Ch. Engr., Chicago Electronic Engineering Co., 3223 W. Armitage Ave., 47.
Holzbach, Robert L. (A'41), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
Hooper, J. R. (M'48), Owner, J. R. Hooper Company, Box 209, Brookfield, Ill.
Hooper, Wm. T., Jr. (A'46), Asst. Prof., Civil Engrg., Northwestern University, Evanston, Ill.
Hoover, Blaine, Jr. (M'47), Dist. Plant Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
Hoover, Herbert (Hon.M'26), Stanford University, Stanford, Calif.
Hopkins, Arthur E. (M'44), Elect. Engr., Holabird & Root & Burgee, 180 N. Wabash Ave., 1.
Hopkins, Edward J. (A'36), Mech. Engr., United Wallpaper, Inc., 222 W. North Bank Dr., 54.
Hopkins, R. S. (M'28), Com. of Pub. Works, Village of Hinsdale, Memorial Bldg., Hinsdale, Ill.
Hopley, (Miss) R. M. (J'46), Tech. Editor, Armour Research Foundation, 35 W. 33rd St., 16.
Hoppesch, John W. (A'26), Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.
Horneman, Beatrice C. (M'48), Landscape Arch., Chicago Housing Authority, 343 S. Dearborn St., 4.
Horner, Harold E. (M'28-'38;A'46), Pres., Foth, Porath & Horner, Inc., 228 N. LaSalle St., 1.
Horner, Kenneth R. (A'48), Asst. Supt., Wiring Insp. Div., Commonwealth Edison Co., 72 W. Adams St., 90.
Horstmann, Roy J. (M'48), Asst. Ch. Engr., Jefferson Electric Co., 25th & Madison Sts., Bellwood, Ill.
Horton, Horace B. (A'13), Pres., Chicago Bridge & Iron Co., 1305 W. 105th St., 43.
Houser, A. M. (M'09), Cons. Engr., Crane & Co., 836 S. Michigan Ave., 5.
Houser, A. M., Jr. (J'23;A'28;M'37), Directing Engr., Special Order Engrg. Dept., Crane & Co., 836 S. Michigan Ave., 5.

INLAND STEEL CO.

38 S. Dearborn Street
Chicago 3, Ill.

Structurals • Bars • Plates
Sheets • Strip • Tin Plate
Piling • Reinforcing Bars
Rails • Track Accessories

Hovland, Carlot B. (A'36;M'47), 1031 Bryn Mawr Ave., 40.
Howard, Carl G. (J'26;A'29-'34;M'36), Mf's. Agent, 105 W. Adams St., 3.
Howard, Edwin A. (M'46), Sr. Asst. Subway Engr., Dept. of Subways & Superhighways, City of Chicago, 20 N. Wacker Dr., 6.
Howard, Kenneth J. (A'41), College Employment Supv., Illinois Bell Telephone Co., 212 W. Washington St., 6.
Howard, Neal D. (M'42), Western Ed., Railway Age; Ed., Railway Engineering & Maintenance, Simmons-Boardman Publishing Corp., 105 W. Adams St., 3.
Howe, Wilfred C. (M'45), Com. Engr., Kellogg Switchboard & Supply Co., 6650 S. Cicero Ave., 38.
Howell, Horace L. (M'20), Supt. Way & Structures, Chicago Transit Authority, 1165 N. Clark St., 10.
Howson, Arthur W. (M'26), Engr., Alvord, Burdick & Howson, 20 N. Wacker Dr., 6.
HOWSON, Louis R. (M'18) (Past President), Partner, Alvord, Burdick & Howson, 20 N. Wacker Dr., 6.
Hoyle, Robert L. (M'43), Ch. Design Engr., Burgess - Manning Company, 749 Park, Libertyville, Ill.
Hubbell, Clifton H. (J'46;A'48), Mech. Engr., Sauermaier Bros., Inc., 522 S. Clinton St., 7.
Huddle, Robert W. (A'42), Devel. Engr., Diesel Research Dept., Oklahoma A & M College, Stillwater, Okla.
Hudson, W. T. (M'39), P. O. Box 2567, Houston 10, Texas.
Huebner, Charles A. (A'40;B'47), Prog. Analysis Mgr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
Huff, Julius (S'48), 4243 W. Roosevelt Rd., 24.
Huffman, F. C. (M'13), Retired, 1311 Maple Ave., Wilmette, Ill.
Hufnagel, Walter P. (A'36), Plant Engr., Illinois Bell Telephone Co., 215 W. Randolph St., 6.
Hugg, Harlan H. (A'46), Staff Engr., DeLeuw, Cather & Co., 407 N. Campbell, El Paso, Texas.
Hughes, Dean G. (A'42), Struct. Designer & Estimator, American Bridge Co., 208 S. LaSalle St., 4.
Hughes, Lorne J. (M'20), Asst. Engr., C., R. I. & P. R. R. Co., LaSalle St. Station, 5.
Hughes, Robert J. (J'48), Student Engr., Illinois Bell Telephone Co., 215 W. Randolph St., 6.
Hugon, Henry B. (M'48), Vice Pres., Appraisal Engineering Corp., 173 W. Madison St., 2.
Hulick, Farel A. H. (M'48), Methods, Production & Standards Mgr., Signode Steel Strapping Co., 2600 N. Western Ave., 47.
Hullinger, R. W. (J'48), Asst. Engr., Illinois Bell Telephone Co., 215 W. Randolph St., 6.
Humiston, John F. (J'35;A'42;M'47), Supv. of Maint. Engrg., South Works, Carnegie-Illinois Steel Corp., 3426 E. 89th St., 17.
Humphrey, Stanley M. (M'47), Partner, Booz, Allen & Hamilton, 135 S. La Salle St., 3.
Hunefeld, Frank H. (M'28), 1103 Hyde Park Blvd., 15.
Hunt, Henry J. (J'07;M'22), Partner, Mead and Hunt, 550 State St., Madison 3, Wis.
Huntington, W. C. (M'29), Hd., Dept. of Civil Engrg., University of Illinois, Urbana, Ill.

- Hupp, Vernon E.** (M'44), Heating Engr., Chicago Park District, 425 E. 14th Blvd., 5.
- Hurlbut, H. D., Jr.** (J'48), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Hussman, Carl** (M'42), Pres., Carl Hussman, Inc., 3001 N. Oakley, 18.
- Hussman, Carl, Jr.** (J'42;A'47), Vice Pres., Carl Hussman, Inc., 3001 N. Oakley, 18.
- Hutchins, John S.** (J'28;A'31;M'47), Pres., Ramapo Ajax Div., American Brake Shoe Co., 109 N. Wabash Ave., 2.
- Hute, Leonard J.** (A'48), Power Supv., Public Service Company of Northern Illinois, 72 W. Adams St., 3.
- Huxley, Henry M.** (Aff'36), 38 S. Dearborn St., 3.
- IMHOFF, Eldon A.** (M'40) (Trustee), Mgmt. Asst., Chicago Transit Authority, 79 W. Monroe St., 3.
- Idaszak, Leo** (S'49), 2026 W. Webster Ave., 47.
- Iona, Mario** (M'40), 1020 W. Oakdale Ave., 13.
- Irwin, Henry** (J'25;A'29;M'38), Plant Engr., General American Transportation, 4405 Euclid Ave., East Chicago, Ind.
- Isel, T. G.** (A'45), Asst. Mgr. of Instruct. & Insp. Bureau, The Pullman Company, 222 W. North Bank Dr., 54.
- Isserstedt, A. H.** (Aff'35), Address unknown.
- Iverson, Dan J.** (S'31;J'36-'37;A'38), 1036 St. Mary's Ave., Ft. Wayne, Ind.
- Iwena, Bernard** (M'40), Matrl. & Sup. Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Jackling, D. C.** (M'41), Pres., Mesabi Iron Company, Hobart Bldg., San Francisco 4, Calif.
- Jackson, Archer L.** (M'19-'39;47), Pres., A. L. Jackson Company, 161 E. Erie St., 11.
- Jackson, Chas., E.** (M'43), Real Est. Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Jackson, D. C., Jr.** (M'35), Ch. of Scientific Training, Ballistic Research Labs., Aberdeen Proving Ground, Aberdeen, Md.
- Jackson, George L.** (J'28;A'32;M'42), Subway Plan Engr., Dept. of Subways & Superhighways, 20 N. Wacker Dr., 6.
- Jacobs, J. L.** (M'16), Dir., J. L. Jacobs & Company, 53 W. Jackson Blvd., 4.
- Jacobsen, Roy E.** (S'41;J'41), 2452 N. Kimball Ave., 47.
- Jacobsmeier, Lawrence B.** (M'47), Exec. Vice Pres. & Gen. Mgr., Salkover Metal Processing of Illinois, 4209 W. Lake St., 24.
- Jaedtke, Marshall F.** (J'38-'43;A'47), Const. Supv., Walter H. Flood & Co., 520 N. Edward St., Decatur, Ill.
- James, Virgil E.** (A'34;M'47), Mgr. of Indus. Control Equip. Sales, Automatic Electric Sales Corp., 1033 W. Van Buren St., 7.
- Jameson, William** (M'46), 3061 S. W. 21st St., Miami, Fla.
- Janes, Leonard R.** (A'28-'42;M'44), Devel. Engr., Public Service Company of Northern Illinois, 72 W. Adams St., 3.
- Janett, Leslie G.** (J'36;A'42), Sales Engr., J. O. Ross Engineering Corp., 201 N. Wells St., 6.
- Jacques, C. A.** (A'28-'31;M'47), Asst. to Elect. Engr., Public Service Company of Northern Illinois, 72 W. Adams St., 3.
- Jardine, James W.** (A'36-'40;'42), City Paymaster, City of Chicago, City Hall, 2.
- Jeffries, F. L.** (M'06), Retired, 330 Blackstone, La Grange, Ill.
- Jeffries, William R.** (A'19;M'22), Supt., Schmidt, Garden & Erikson, 104 S. Michigan Ave., 3.
- Jehlicka, Ludvik J.** (M'47), Field Engr., Commonwealth Edison Co., 72 W. Adams St., 90.
- Jelinek, Ernest** (M'45), Asst. Subway Engr., Dept. of Subways & Superhighways, 20 N. Wacker Dr., 6.
- Jelinek, Otto K.** (M'36), Cons. Engr., Ralph H. Burke, 20 N. Wacker Dr., 6.
- Jenkins, Carter** (M'38), Jenkins, Merchant & Nankivil, 805 E. Miller St., Springfield, Ill.
- Jenks, Clarence A.** (M'28), Owner, C. A. Jenks & Co., 343 S. Dearborn St., 5.
- Jennett, Harold P.** (M'40), Dist. Plant Engr., Illinois Bell Telephone Co., 5643 N. Broadway, 40.
- Jennings, Donn O.** (A'45), Plant Engr., Container Corp. of America, 404 E. North Water St., 11.
- Jens, Arthur H.** (A'35;M'41), Supt., Cook County Dept., Fireman's Fund Insurance Co., 175 W. Jackson Blvd., 4.
- Jensen, Edwin W.** (S'42;J'43;Aff'45), Draftsman, Swift & Company, Union Stock Yards, 9.
- Jensen, Harold L.** (A'43), Mech. Engr., Western Electric Co., Hawthorne Works, 23.
- Jensen, Otto L.** (A'36-'42;M'45), Gas Cons. Engr., Public Service Company of Northern Illinois, 1001 S. Taylor Ave., Oak Park, Ill.
- Jeppesen, Gunni** (M'12), Struct. Engr., Bureau of Engineering, City of Chicago, 220 S. State St., 4.
- Jessup, R. D.** (M'28), Engr., Western Electric Co., 5555 Archer Ave., 38.
- Johann, Daniel A.** (M'43), Dist. Mgr., Roots-Connorsville Blower Corp., 122 S. Michigan Ave., 3.
- Johnsen, John** (A'19;M'37), 7725 Paxton Ave., 49.
- Johnson, Albert W.** (M'36), Struct. Designer, Sanitary District of Chicago, 910 S. Michigan Ave., 5.
- Johnson, B. A.** (A'38), Address unknown.
- Johnson, Carl V.** (M'48), Sales Supv., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Johnson, Charles A.** (M'48), Plumbing Engr., Ford, Bacon & Davis, Inc., 60 W. Washington St., 2.
- Johnson, C. Roy** (J'36;A'40), Engr., W. F. Hebard & Co., 336 W. 3rd St., 9.
- Johnson, Dellmar G.** (M'48), Engr., Commonwealth Edison Co., 72 W. Adams St., 90.
- Johnson, Edward P.** (A'19;M'37), Ch. Engr., Leonard Construction Co., 37 S. Wabash Ave., 3.
- Johnson, Eldon A.** (S'30;J'32;A'36), Ind. Engr., E. I. Du Pont de Nemours & Co., Remington Arms Co., Iliion, N. Y.
- Johnson, Elmer A.** (M'43), Asst. to Engr. of Bridges, Illinois Central R. R., 135 E. 11th Pl., 5.
- Johnson, Ernest H.** (M'47), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Johnson, Frederick B.** (M'40), Ch. Testing Engr., Commonwealth Edison Co., 2233 S. Throop St., 8.
- Johnson, G. Robert** (M'48), Partner, Arch. & Engr., Pace Associates, 53 W. Jackson Blvd., 4.
- Johnson, Halvard T.** (M'46), Fire Prot. Engr., Sears Roebuck & Co., 925 S. Homan Ave., 7.
- Johnson, Harley A.** (M'20), Chicago Transit Authority, 79 W. Monroe St., 3.
- Johnson, Harvey J.** (M'41), 2233 S. Throop St., 8.
- Johnson, Herman G.** (A'46), Arch., Engr. & Appraiser, Eugene & Max Fuhrer, 120 S. LaSalle St., 3.
- Johnson, Hjalmar W.** (M'48), Staff Asst. to Pres., Inland Steel Company, 38 S. Dearborn St., 3.
- Johnson, H. J.** (A'36;M'47), Section Ch., Western Electric Co., Inc., Hawthorne Works, 23.
- Johnson, John H.** (M'48), Johnson & Johnson, 111 W. Washington St., 2.
- Johnson, Kenneth C.** (S'49), 2313 N. Natheez Ave., 35.
- Johnson, Leonard E.** (M'46), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Johnson, Lloyd M.** (A'28;M'30), Room 710, City Hall, 2.
- Johnson, Maro** (M'20), Retired, Cascade Fresa, Hammond, Louisiana.

Hydraulic Equipment

for

- Production Tooling
 - Machine Tools and Presses
 - Road and Farm Machinery
- Including: Pumps, Valves, Cylinders and Pump Units

MacMILLIN ENGINEERING CORP.

6806 N. Clark St. Chicago 26
Phone AM. 2-1191

STROBEL CONSTRUCTION COMPANY

Subways, Bridge and Steel Construction, Designers and Builders of Bascule Bridges

53 West Jackson Blvd.

CHICAGO, ILLINOIS

GREELEY AND HANSEN ENGINEERS

Samuel A. Greeley Kenneth V. Hill
Paul E. Langdon Samuel M. Clarke
Thomas M. Niles Paul Hansen (1920-1944)

Water Supply, Water Purification
Sewerage, Sewage Treatment
Flood Control, Drainage, Refuse Disposal

220 S. STATE STREET, CHICAGO 4

MEMBERSHIP

Johnson, Nils E. (M'30-'41;'43), Maint. Supt., W. W. Kimball Co., 2631 W. 27th St., 8.

Johnson, Norman A. (A'36;M'44), Cabling Engr., Western Electric Co., Inc., 100 Central Ave., Kearny, N. J.

Johnson, Russell E. (A'47), Safety Engr., Croname, Inc., 3701 Ravenswood Ave., 13.

Johnson, Wilbur C. (A'30-'32;M'40), Elect. Engr., Albert Kahn Assoc. Arch. & Engrs., Inc., Detroit 2, Mich.

Jolesch, Walter L. (A'46), Traf. Planning Supv., Chicago Park District, 425 E. 14th Blvd., 5.

Jones, Edward Lindley (J'03;M'10), 441 Ridge Ave., Evanston, Ill.

Jones, James R. (J'46), Serv. Engr., Northern Illinois Coal Corp., 310 S. Michigan Ave., 4.

Jones, Roy E. (A'43), 529 S. Green Bay Rd., Highland Park, Ill.

Jordan, Donald T. (A'43), Struct. Engr., American Bridge Co., 208 S. LaSalle St., 4.

Jordan, Robert B. (A'43), Asst. to Const. Engr., Carnegie-Illinois Steel Corp., 3426 E. 89th St., 17.

Jordan, T. A. (M'19), Cons. Engr., 6536 Chicora Ave., 30.

Jorgensen, Axel C. (A'47), Ind. Engr., Commonwealth Edison Co., 72 W. Adams St., 90.

Jorgensen, George L. (M'23), Statistician, Commonwealth Edison Co., 72 W. Adams St., 90.

Joseph, Marvin M. (A'46), Civil Engr. & Surveyor, 472 N. Liberty St., Elgin, Ill.

Josler, Edmund B. (A'45), 327 S. La Salle St., 4.

Joslin, Murray (A'30-'36;M'45), Asst. to Vice Pres., Public Service Company of Northern Illinois, 72 W. Adams St., 3.

Joyce, Joseph L. (M'43), Field Engr., Crane Co., 836 S. Michigan Ave., 5.

Juhnke, P. B. (M'19), P. O. Box 1104, 90.

Julian, Victor H. (A'28), Retired, 8805 S. Michigan Ave., 19.

Junkins, John N. (M'46), Engrg. Mgr., Vern E. Alden Co., 120 S. LaSalle St., 3.

Jusenius, Fred H. (J'31-'35;A'36;M'47), Vice Pres., Diamond Iron Works, Inc., 1728 Second St., N., Minneapolis 11, Minn.

Just, James W. (M'47), Dir., Fire Service Ext'n., University of Maryland, College Park, Md.

Kaar, Howard W. (M'43), Struct. Engr., George O. Neumann & Co., 790 Broadway, Gary, Ind.

A NICE PLACE TO BRING
YOUR FRIENDS . . .

W.S.E. HEADQUARTERS

- Friendly Atmosphere
- Delicious Meals
- Modern Lounge and Diningroom

84 E. Randolph St.

RA. 6-1736

KAHLER, W. V. (M'38), (Past President), Vice Pres., Illinois Bell Telephone Co., 212 W. Washington St., 6.

Kahnweiler, Deane B. (Aff'36-'41;'45), Salesman, J. I. Holcomb Mfg. Co., 20 E. Jackson Blvd., 4.

Kaindl, Arthur M. (M'33), Struct. Engr., City of Chicago, 139 N. Clark St., 2.

Kalk, A. C. (M'28), Plant Engr., Illinois Zinc Co., 2959 W. 47th St., 32.

Kapple, W. H. (A'48), Prof. of Arch'l. Research, Small Homes Council, University of Illinois, Champaign, Ill.

Karakiz, S. M. (S'27;J'28;Aff'35;A'36), 1206 Jarvis Ave., 26.

Karp, Elmer H. (M'19), James Stewart Corp., 231 S. LaSalle St., 4.

Kasper, Michael J. (A'46), 3143 W. Diversey Ave., 47.

Kaufman, Henry J. (M'14), 20 N. Wacker Dr., 6.

Kaufman, Morris B. (M'47), Asst. Engr., C. M., St. P. & P. R. R. Co., 2599 W. Grand Ave., 12.

Kawiecki, Chester J. (J'48), Engr. (Jr. Grade), Commonwealth Edison Co., 2233 S. Throop St., 8.

Kayser, Harry C. (A'47), Staff Planner, Commonwealth Edison Co., 72 W. Adams St., 90.

Keeland, James W. (Aff'45), 3940 Broadway, Houston, Texas.

Keiser, Charles E. (M'47), Exec. Asst. to Gen. Mgr., Chicago Transit Authority, 175 W. Jackson Blvd., 90.

Keith, Arthur W. (M'48), Engr., DeLeuw, Cather & Co., 150 N. Wacker Dr., 6.

Keith, Laurence P. (M'44), Bldg. Code Cons., National Lumber Manufacturers Assn., 176 W. Adams St., 3.

Keith, Leigh S. (M'23), 28 S. Highland Ave., Lombard, Ill.

Kelker, R. F., Jr. (M'20), Retired, 410 Hillcrest Rd., San Mateo, Calif.

Kellenberger, K. E. (M'20), Adv. Mgr., Union Switch & Signal Co., 1789 Braddock Ave., Pittsburgh 18, Pa.

Keller, Henry W. (M'48), Office Engr., Public Service Company of Northern Illinois, 72 W. Adams St., 3.

Keller, Robert W. (S'48), Engr., Barrett Div., Allied Chemical & Dye Corp., 2800 S. Sacramento Ave., 23.

Kelly, Edward J. (M'15), Cons. Engr., 20 N. Wacker Dr., 6.

Kelly, Raymond R. (A'46), Engr., Bldg. Design, Public Service Company of Northern Illinois, 72 W. Adams St., 3.

Kendall, R. G. (M'46), Com., Engr., Chicago Transit Authority, 175 W. Jackson Blvd., 4.

Kendrick, John F. (A'21;M'27), 16 E. Broad St., Columbus 15, Ohio.

Kenneally, M. M. (M'48), Sales Mgr., Joslyn Mfg. Supply Co., 20 N. Wacker Dr., 6.

Kentner, Richard D. (A'48), Engr., Illinois Bell Telephone Co., 131 N. Franklin St., 6.

Keoughan, Lawrence (M'34), Sr. Elect. Engr., Sanitary District of Chicago, 5800 W. Pershing Rd., Cicero 50, Ill.

Kern, Cecil E. (M'46), Staff Engr., DeLeuw, Cather & Co., 150 N. Wacker Dr., 6.

Kerr, Albert W. (M'47), Sr. Partner, A. W. Kerr and Associates, 407 S. Dearborn St., 5.

Kerr, Albert E., Jr. (A'46), Partner, Design Engineering Associates, 7439 S. Cottage Grove Ave., 19.

Kessie, Edgar S. (M'48), Gen. Foreman, Western Electric Co., Inc., 2511 W. 23rd St., 8.

Ketel, Carl G. (A'36), Sales Engr., Weston Electrical Instrument Corp., 205 W. Wacker Dr., 6.

Keyes, George G. (M'48), Devel. Engr., Teletype Corporation, 1400 W. Wrightwood Ave., 13.

Kibort, Francis (M'41), 1550 E. 63rd St., 37.

Kien, Walter H. (M'28-'36;'43), 205 W. Wacker Dr., 6.

Kientz, Glenn I. (M'46), Dist. Mgr., H. G. Vogel Company, 4554 Broadway, 40.

Kilstofte, Irving N. (J'26;A'31), Engr., Commonwealth Edison Co., 72 W. Adams St., 90.

Kincaid, Evert H. (Aff'46), Partner, Community Planners, 105 W. Madison St., 2.

King, Alexander J. (M'36), Ch. Sales Engr., American Steel & Wire Co., Rockefeller Bldg., Cleveland 13, Ohio.

King, Arthur C. (M'24), Cons. Engr., 35 S. Dearborn St., 3.

King, John E. (A'36;M'44), Central Of. Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.

King, P. W. (M'19), Box 128, Normal, Ill.

King, Raymond B. (A'40), Supv., Testing Bureau, Automatic Electric Co., 1033 W. Van Buren St., 7.

Kinne, W. S.; Jr. (A'44), Ch. Arch., DeLeuw, Cather & Co., 150 N. Wacker Dr., 6.

Kinney, Lowell K. (A'48), Commonwealth Edison Co., 72 W. Adams St., 90.

Kinney, Wm. M. (M'15), Retired, 126 Abingdon Ave., Kenilworth, Ill.

Kinsey, John D. (J'20;A'22;M'27), Partner, Ehret and Kinsey, 327 S. LaSalle St., 4.

Kintner, Robert C. (M'48), Prof. of Chem. Engrg., Illinois Institute of Technology, 3300 Federal St., 16.

Kirk, Ivan M. (M'47), Sr. Engr., Illinois Bell Telephone Co., 215 W. Randolph St., 6.

Kirkman, R. F. (M'20-'36;'45), 3000 N. Sheridan Rd., 14.

Klammer, K. K. (M'48), Staff Supv., Illinois Bell Telephone Co., 208 W. Washington, 6.

Klecka, Joseph (A'25-'34;M'44), Sr. Struct. Designer, Dept. of Public Works, City of Chicago, 765 Cabrini St., 7.

Klimczak, Ernest J. (J'48), Serv. Engr., Ahlberg Bearing Company, 3025 W. 47th St., 32.

Kliment, William P. (M'44), Engr. of Standards, Crane Co., 836 S. Michigan Ave., 5.

Knabe, Robert H. (J'37;A'43), 3123 N. Kenneth Ave., 41.

Knapp, Raymond S. (A'20;M'25-'35;'41), Plan. Engr., Chicago Park District, 425 E. 14th Blvd., 5.

Kneale, Louella H. (M'49), Engrg. Asst., Illinois Bell Telephone Co., 208 W. Washington St., 6.

Knecht, Walter G. (M'47), Supv., Engr., Commonwealth Edison Co., 72 W. Adams St., 90.

Kneer, Vernon R. (A'29-'35;'38;M'47), Alvord, Burdick & Howson, 20 N. Wacker Dr., 6.

Knehans, Wm. H. (M'20), Ch. Engr., Packers Architectural & Engineering Co., 1824 N. Ninth St., St. Louis 6, Mo.

Knight, Robert (M'19), Retired, 924 N. Lorel Ave., 51.

Knittle, Gale L. (M'48), Man. & Sta. Maint. Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.

- Knoebel, Alfred J.** (S'47), Jr. Design Engr., Acme Steel Co., 2840 Archer Ave., 39.
- Knowlson, James S.** (M'48), 1826 W. Diverser Pkwy., 14.
- Knowlton, Elwin C.** (M'47), Prod. Engr., Standard Rolling Mills, Inc., 196-112th Ave., Hollis, L. I., N. Y.
- Knox, Merrill B.** (M'46), Cons. Engr. (Owner), Merrill B. Knox & Associates, 20 N. Wacker Dr., 6.
- Knudsen, Harold B.** (S'22;J'22;A'25;M'28), Dean, Chicago Technical College, 2000 S. Michigan Ave., 16.
- Knuth, E. C.** (A'19;M'24), Pres. & Treas., E. C. Knuth & Co., 2919 W. Fond du Lac Ave., Milwaukee 10, Wis.
- Knuth, Wilfred F.** (A'46), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Knutson, Kenneth G.** (A'38), 2137 N. La Vergne, 39.
- Kobos, Roman L.** (J'43), Mech. Draftsman, Excel Movie Products, 1321 S. Michigan Ave.
- Kobylanski, Jos. L.** (A'21;M'23), Bldg. Inspr., City of Chicago, City Hall, 2.
- Koch, Albert A.** (M'47), Engr. Cons., New Mexico School of Mines, P. O. Box 601, Socorro, N. M.
- Koch, Edward C.** (M'46), Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.
- Koe, George A.** (S'48), Distributor, The Aluminum Cooking Utensil Co., 4236 W. 21st Pl., 23.
- Koebele, C. W.** (M'36), Subway Struct. Designer, Dept. Subways & Superhighways, 20 N. Wacker Dr., 6.
- Koeberle, Harold J.** (A'36;M'44), Proj. Engr., Carnegie-Illinois Steel Corp., 3426 E. 89th St., 17.
- Koepke, Frank H.** (M'44), Sales Engr., Gas Appliance Service, 1211 Webster Ave., 14.
- Koepke, Herman F.** (A'25-'36;M'47), Struct. Engr., Vern E. Alden Co., 120 S. LaSalle St., 3.
- Kohn, Robert S.** (A'47), Jr. Mach. Designer, Continental Can Co., 7600 S. Racine Ave., 20.
- Kohout, George W.** (S'28;J'31;A'34;M'48), Struct. Designer, Div. Water Works Design, City of Chicago, City Hall, 2.
- Kohr, Hilton G.** (A'38), Mach. Designer, Western Electric Co., Inc., Hawthorne Works, 23.
- Kolflat, Alf** (M'29-'35;'36), 140 S. Dearborn St., 3.
- Koll, R. S.** (M'36), Ch. Engr., Conveyor Systems, Inc., 325 S. California Ave., 12.
- Koller, Robert** (M'45), Supt. & Ch. Engr., C. H. Stoelting Co., 424 N. Homan Ave., 24.
- Konstant, Nicholas I.** (A'20;M'26-'29;M'36), 5923 N. Paulina St., 26.
- Korff, Richard C.** (S'46;J'48), Trainee, Mack-International Motor Truck Corp., 3300 S. Wentworth Ave., 16.
- Koskinan, Clyde J.** (M'43), 4625 Drexel Blvd., 15.
- Kostenko, B. M.** (J'35;A'41), Metallurgist; Office Mgr., Sueske Brass & Copper Co., 13 N. Peoria St., 7.
- Kotiza, Edward** (A'48), Telephone Equip. Engr., Western Electric Co., Inc., Hawthorne Works, 23.
- Kousens, Louis A.** (M'46), 5348 Warner Ave., 41.
- Kovar, Joseph F.** (J'48), Deputy Starting Engr., Commonwealth Edison Co., 1111 W. Cermak Rd., 8.
- Kovarik, Jerome H.** (A'36), 4719 S. 29th St., Fairlington, Arlington, Va.
- Kowal, John A.** (J'48), Asst. Engr., Illinois Bell Telephone Co., 215 W. Randolph St., 6.
- Kraft, Robert E.** (J'47), Link-Belt Co., 2410 W. 18th St., 8.
- Krag, Mathew** (M'39), Chicago Park District, 425 E. 14th Blvd., 5.
- Krahl, William F.** (M'20), Pres., Krahl Construction Company, 350 N. Clark St., 10.
- Krambles, George** (M'46), Engr., Chicago Transit Authority, 79 W. Monroe St., 3.
- Krammer, Robert** (J'47), Supv. Engr., F. D. Campbell, 332 S. Michigan Ave., 4.
- Krasa, Albert** (M'36-'41;'48), Mach. & Tool Designer, Naval Air Station, North Island, San Diego, Calif.
- Krasin, Lawrence L.** (M'42), Salesman, Marquette Paper Corp., 700 W. Lake St., 6.
- Krass, Hyman H.** (J'37;A'43), Civil Engr., Ralph H. Burke, 20 N. Wacker Dr., 6.
- Krause, Robert** (M'43), Mill Mgr., Container Corporation of America, 404 E. North Water St., 11.
- Krauss, Robert E.** (A'46), Ch. Draftsman, Danly Machine Specialties, Inc., 2100 S. 52nd St., Cicero 50.
- Kreda, Samuel W.** (M'48), Owner, Samuel W. Kreda & Associates, 64 W. Randolph St., 1.
- Kreisheimer, John** (M'47), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Kreller, R. A.** (A'19-'34;M'43), Squad Leader, American Bridge Co., Gary, Ind.
- Kreml, Frank** (Aff'39;A'42), Systems Engr., Automatic Electric Co., 1033 W. Van Buren St., 7.
- Kreutzburg, Arthur R.** (J'36;A'39), Field Engr., Herlihy Mid-Cont. Construction Co., 79 W. Monroe St., 3.

Specify

**CONTROL SYSTEMS
DESUPERHEATERS
THERMOMETERS
FLOW METERS
DRAFT GAGES
LEVEL GAGES
CO₂ METERS
REGULATORS
VALVES**

Designed and Built by
**REPUBLIC FLOW
METERS CO.
CHICAGO, ILL.**

PIERCE ELECTRIC COMPANY

Not Incorporated



**367 West Adams St.
Chicago 6, Illinois**

MEMBERSHIP

- Krick, Robert M.** (A'48), Div. Staff Supv., Illinois Bell Telephone Co., 5643 N. Broadway, 40.
- Krohn, Howard G.** (S'24-'25;A'36-'38;M'47), Asst. Div. Engr., Public Service Company of Northern Illinois, 1701 S. First Ave., Maywood, Ill.
- Krol, Leonard W.** (A'48), Ins. Broker, 6059 S. Francisco Ave., 29.
- Krumdieck, Leo** (J'21;A'25), Contr., 3622 S. Damen Ave., 9.
- Kucho, Joseph, Jr.** (S'29;J'30;A'37), Engr., Link-Belt Co., 2410 W. 18th St., 8.
- Kucinski, William** (A'29-'35;M'42), Mech. Engr., Crane Co., 836 S. Michigan Ave., 5.
- Kuehl, Albert J.** (A'48), Kuehl & Heavey, 20 N. Wacker Dr., 6.
- Kuehl, Henry A.** (M'47), Partner, Kuehl & Heavey, 20 N. Wacker Dr., 6.
- Kuffel, W. F.** (M'48), Pres., Kuffel, Eggert & Co., 175 W. Jackson Blvd., 4.
- Kuhl, Francis H.** (A'19;M'23), Retired, 6127 W. 74th St., Los Angeles 45, Calif.
- Kukar, J. R.** (M'48), Mgr., Plant Const. & Maint., United Air Lines, 16th & Glenarm, Denver, Colo.
- Kunze, Edward J.** (M'45), 923 N. Washington St., Wheaton, Ill.
- Kurinsky, John S.** (S'47), 3340 Chicago Ave., 51.
- Kurtz, George W.** (M'45), 100 N. LaSalle St., 2.
- KURTZ, W. O.** (M'24), (Past President) Retired, 152 Green Bay Rd., Winnetka, Ill.
- Kus, Elmer A.** (S'47), 2609 W. 23rd Pl., 8.
- Kutaj, Walter C.** (J'42;A'46), Engr. Draftsman, DeLeuw, Cather & Co., 150 N. Wacker Dr., 6.
- Labes, Willis G.** (A'47), Prof., Illinois Institute of Technology, 3300 S. Federal St., 16.
- Lacher, Walter S.** (A'12;M'17), Sec'y. American Railway Engineering Association, 59 E. Van Buren St., 5.
- Ladd, Chauncey H.** (M'44), Civil Engr., American Can Co., 104 S. Michigan Ave., 3.
- Ladd, James A.** (M'44), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- LaForce, Harry B.** (A'46), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Lagerstrom, Harry** (M'45), Prin. Asst. Subway Engr., Dept. of Subways & Superhighways, 20 N. Wacker Dr., 6.
- Lair, Jack R.** (M'41), Engr., Breese Burners, Inc., 341 E. Ohio St., 11.
- Lalla, George J.** (Aff'37), Springer, N. M.
- Lallier, Paul R.** (M'40), Elect. Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.
- Lamb, Carter H.** (M'28), Valuation Engr., American Water Works & Electric Co., 50 Broad St., New York, N. Y.
- Lamm, Lloyd F.** (M'43), Vice Pres. & Gen. Mgr., Etching Company of America, 1520 Montana St., 14.
- Lammers, Franklyn J.** (M'45), Sec'y., Wallace Supplies Mfg. Co., 1300 Diversey, 14.
- Landry, George A.** (M'28), Install. Operat. Mgr., Western Electric Co., Inc., 30 Church St., New York 7, N. Y.
- LANE, F. H.** (M'20), (Past President), Field Engr., Pioneer Service & Engineering Co., 231 S. LaSalle St., 4.
- Lang, George A.** (M'48), Pres., Emerson-Comstock Co., Inc., 1 N. LaSalle St., 2.
- Lang, William J.** (M'48), Step-by-Step Maint. Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.
- Langdon, Lawrence E.** (A'37;M'45), Treas., Pacific Flush Tank Co., 4241 Ravenswood Ave., 13.
- Lange, Joseph O.** (A'26-'30;M'36), Engr. of Patents, Crane Co., 836 S. Michigan Ave., 5.
- Lange, Robert N.** (S'37;J'38-'42;A'46), Struct. Designer, Cook County Highway Dept., 160 N. LaSalle St., 1.
- Lange, William W.** (J'28;A'40), Elect. Engr., Eureka X-Ray Tube Corp., 3250 N. Kilpatrick Ave., 41.
- Lanterman, W. F.** (M'45), Elect. Maint. Supv., National Broadcasting Co., 20 N. Wacker Dr., 6.
- Lantz, Lawrence L.** (A'35;M'43), Supv., Commonwealth Edison Co., 72 W. Adams St., 90.
- Lapp, Jack** (A'48), Engrg. Draftsman, Graves & Graves, 3047 N. Sheffield Ave., 14.
- Larsen, A. B.** (M'48), Supv., Safety & Training Div., Const. Dept., Commonwealth Edison Co., 72 W. Adams St., 90.
- Larsen, Olav R.** (M'48), Draftsman, Commonwealth Edison Co., 72 W. Adams St., 90.
- Larsen, Peter M.** (A'15;M'21-'33;'41), Vern E. Alden Co., 120 S. LaSalle St., 3.
- Larson, Einar F.** (A'48), Demonstra. Engr., Illinois Bell Telephone Co., 212 W. Washington Blvd., 6.
- Larson, Melville N.** (S'25;J'27;A'33-'40;M'46), Engr., Sta. Design Dept., Public Service Company of Northern Illinois, 72 W. Adams St., 3.
- Larson, Peter L.** (M'48), Engr., Gas Sta. Design, Public Service Company of Northern Illinois, 1001 S. Taylor Ave., Oak Park, Ill.
- Lasko, George S.** (S'38;J'41;A'42), 2922 W. 43rd St., 32.
- Latimer, George T.** (M'46), Gen. Supt., Waukesha Lime & Stone Co., P. O. Box 27, Waukesha, Wis.
- Lauritsen, Clarence N.** (M'48), Div. Operat. Supt., Public Service Company of Northern Illinois, 51 W. Jackson, Joliet, Ill.
- Lavigne, Hilaire J.** (A'47), Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Lawrence, Clara E.** (Aff'48), Corp. Sec'y. & Corp. Treas., Wm. B. Lucke, Inc., 514 E. R. R. Ave., Wilmette, Ill.
- Lawson, Russell L.** (S'23;A'26;M'38), Const. Engr., Butler Brothers, 426 W. Randolph St., 6.
- Lawton, Jack W.** (J'48), Plant Engr., Illinois Bell Telephone Co., 215 W. Randolph St., 6.
- Layng, Charles** (Aff'46), Retired, 435 N. Hughey, Orlando, Fla.
- Leadbetter, Ralph L.** (M'43), Vice Pres., Burgess-Manning Company, 749 E. Park Ave., Libertyville, Ill.
- Leaming, Earl K.** (M'46), 8025 Kildare Ave., Skokie, Ill.
- Leardi, Thomas J.** (A'36), Supv. Designer, United Engineers & Constructors, Inc., 1401 Arch St., Philadelphia 2, Pa.
- Leasure, Elmer E., Jr.** (M'36), Sec'y.-Treas., Monroe Electric Company, 157 W. Ontario, 10.
- LeBaron, Theodore** (A'46), Illinois Bell Telephone Co., 208 W. Washington St., 6.
- LECLAIR, Titus G.** (A'28;M'37) (Past President and Trustee), Asst. Ch. Elect. Engr., Commonwealth Edison Co., 72 W. Adams St., 90.
- Lee, Chesman A.** (J'24;A'26-'31;M'44), Process Engr., Darling & Company, 4201 S. Ashland Ave., 9.
- Leeper, Marvin T.** (M'41), Engr., American Bridge Co., Gary, Ind.
- Lehle, Geo. L.** (M'18), 4554 Broadway, 40.
- Leighton, M. M.** (M'23), Ch., Illinois State Geological Survey, Natural Resources Bldg., Urbana, Ill.
- Leininger, A. J.** (J'48), 1535 N. Lawler Ave., 51.
- Leisner, P. W.** (M'11), Cons. Engr., Address Unknown.
- Lejeck, Edward** (M'43), 10730 Campbell Ave., 43.
- Lempke, W. J., Jr.** (A'48), 1226 Glendinning, Wilmette, Ill.
- Lennon, Roy R.** (A'48), Dist. Plant Supt., Illinois Bell Telephone Co., 6317 Maryland Ave., 37.

TELEPHONES for construction

jobs, mines, oil wells, country homes, estates, etc., for permanent or temporary installations. Also wire, insulators, ground rods, batteries and other necessary equipment.

PROMPT DELIVERY

TELEPHONE REPAIR & SUPPLY CO.

Daniel H. McNulty, Manager
1760 LUNT AVE. CHICAGO 26, ILL.

LURIE & LURIE

Machine Designers - Engineers

Development of Special Industrial

Machinery

Engineering Service for Manufacturers

126 N. Union Ave., Chicago

Griffenhagen & Associates

Established 1911

Consultants in Management

Problems of engineering, business policy, organization, procedure, personnel, and finance.

CHICAGO - BOSTON
NEW YORK
WASHINGTON - CLEVELAND

Lerch, Charles W. (A'30), Pres., Charles Lerch Elevator Co., 409 W. Washington Blvd., 6.

Levin, C. A. (M'46), Asst. Ch. Engr., Ditto, Inc., 2243 W. Harrison St., 14.

Levitsky, Leonid N. (S'38;J'40;A'46), Engr. Asst., Chicago Sanitary District, 910 S. Michigan Ave., 5.

Lewis, Fred W. (M'37), Owner, Metalock Casting Repair Service, 3227 S. Shields Ave., 16.

Lewis, John A. (A'40-'42;M'45), Address Unknown.

Lewis, Kenneth M. (S'48), 7409 Cranston Ave., 49.

Lewis, Raymond L. (M'46), Supt., Engrg. & Maint., American Steel & Wire Co., Waukegan, Ill.

Lewis, Richard J. (J'48), Engr., Factory Insurance Association, 175 W. Jackson Blvd., 4.

Lewis, Samuel R. (M'20), Partner, Samuel R. Lewis and Associates, 100 W. Monroe St., 3.

Lewis, Thomas P. (M'48), Supt., Cable Div., Commonwealth Edison Co., 72 W. Adams St., 90.

Lewis, Wm. A., Jr. (M'48), Dean, Graduate School, Illinois Institute of Technology, 3300 Federal St., 16.

Lewy, Daniel (M'47), Mgr., Chgo. Of., The Patterson-Kelley Co., Inc., 80 E. Jackson Blvd., 4.

Libanoff, Leo (S'28-'29;A'36-'39;'44), 1937 Crystal St., 22.

Liebmann, Paul O. (S'48), 1963 W. Argyle St., 40.

Lillard, Paul (M'37), Struct. Designer, Cook Co. Highway Dept., Bridge Div., 160 N. LaSalle St., 1.

Lincoln, Thomas W. (A'45), Elect. Engr., Sanitary District of Chicago, 5800 W. Pershing Rd., Cicero 50, Ill.

Lindemann, George E. (A'36-'40;M'47), Asst. Ch. Product Designer, Republic Flow Meters Co., 2240 Diversey Ave., 47.

Linden, John E. (M'47), 8214 Drexel Ave., 19.

Lindquist, Bert S. (S'30;A'32), Struct. Engr., Corps of Engineers, Dept. of Army, 222 W. North Bank Dr., 54.

Link, Oren R. (A'45), Engr., John Mackler & Co., 10th & Washington Sts., Chicago Heights, Ill.

Linsenmaier, W. R. (M'43), Designer, American Bridge Co., 208 S. LaSalle St., 4.

Lipsey, Alex A. (M'36), Ch. Engr., Marrero, Lipsey & Swanson, 112 E. Chestnut St., 11.

Livingston, J. M. (M'45), Sales Engr., G & W Electric Specialty Co., 30 N. LaSalle St., 2.

Llewellyn, R. C. (M'17), Arch. & Engr., Jos. C. Llewellyn Co., 38 S. Dearborn St., 3.

Lockwood, L. E. (M'46), Supv. of Dist. Opera., Public Service Company of Northern Illinois, 1319 S. First St., Maywood, Ill.

Loebe, Roy A. (S'23-'26;A'37-'40;M'43), Sr. Engr., Ford, Bacon & Davis, 69 W. Washington St., 2.

Loewenberg, M. O. (J'13;A'18;M'25), Partner, Loewenberg & Loewenberg, 111 W. Monroe St., 3.

Lofts, David (M'20), Retired, 420 Wrightwood Ave., 14.

Logan, Howard (M'09), The Austin Company, 510 N. Dearborn St., 10.

Lomax, C. E. (A'34;M'47), Devel. Engr., Automatic Electric Co., 1033 W. Van Buren St., 7.

Long, George F. (M'48), Ch. Engr., Reinf. Bar Div., Inland Steel Co., 38 S. Dearborn St., 3.



One of two PFT No. 500 heater and heat exchangers installed in the Dayton, Ohio, sewage treatment plant. L. C. Huffman, Engineer

Unequalled performance ON THE JOB—that's the clinching proof that brings two more PFT Sewage Gas Fired Digester Heaters, of the type shown above, to the Dayton Sewage treatment plant.

Early in 1947, two PFT No. 500 external digester heaters were installed by the City of Dayton, Ohio, to heat two of the four 85-ft. diameter digesters equipped with PFT floating covers. After over one year of continuous operation, PFT engineers conducted extensive performance tests and dismantled one unit completely for thorough inspection. The dismantled view, right, taken at the time shows the complete lack of fouling which permitted continuing the Number 2 unit—operating in parallel with the tested unit—to continue in operation without servicing.

As a result, two additional units are now being installed to supply heat for the other two 85 foot diameter digesters and the original six 50-ft. diameter digesters, all of which are equipped with PFT floating covers. The original six digesters were heated with conventional type boilers and coils. These boilers needed major overhauling and are being replaced with PFT units.

Solve ALL the major troubles common to heating coils immersed in the digesting mass—send for details about the PFT Digester Heater and Heat Exchanger.



PFT No. 500 Heater and Heat Exchanger as dismantled for inspection.

PACIFIC FLUSH TANK CO.
SEWAGE TREATMENT EQUIPMENT EXCLUSIVELY SINCE 1921
4241 RAVENSWOOD AVENUE CHICAGO 13, ILLINOIS
NEW YORK • LOS ANGELES • SAN FRANCISCO • CHARLOTTE, N. C. • DENVER • TORONTO

Long, Samuel P. (A'29), Asst. Dist. Mgr., Sinclair Refining Co., 2540 W. Cermak Rd., 8.

Longerbeam, Charles W. (M'46), Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.

Lorber, Seymour J. (S'48), 6357 N. Oakley Ave., 45.

Loughlin, Michael J. (Aff'42), Ch. Engr. & Master Mech., Hygrade Food Products Corp., 3900 S. Emerald Ave., 9.

MEMBERSHIP

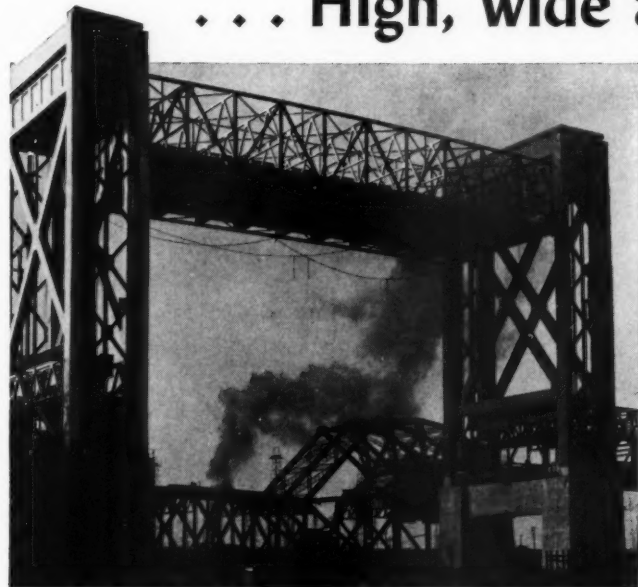
- Love, Harold G.** (M'43), Partner, Niestadt & Love, 407 S. Dearborn St., 5.
- Lovell, Edward L.** (A'46), Plant Engr., The Pacific Telephone & Telegraph Co., 2709 Macdonald, Richmond, Calif.
- Lovewell, M. N.** (J'01;M'03), Retired, 7631 Luella Ave., 49.
- Lowden, Virgil E.** (M'45), Telev. & Special Services Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Loweth, F. C.** (A'16), Illuminating Bldg., Cleveland, Ohio.
- Lowrey, Ernest R.** (M'46), Dial Maint. Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Lozins, Neal G.** (A'47), Designer, Acme Steel Co., 2840 S. Archer Ave., 8.
- Lubke, Walter F.** (M'46), Ch. Pricing Estimator, Roberts & Schaefer Company, 130 N. Wells St., 6.
- Lucas, Fred H.** (M'35), Asst. Mgr. of Sales, Carnegie-Illinois Steel Corp., 434 Fifth Ave., Pittsburgh 30, Pa.
- Lucas, Thomas J.** (M'28), Partner, Lucas & Luick, 231 S. LaSalle St., 4.
- Luce, Arthur T.** (M'19), Vice Pres. & Ch. Engr., New York Water Service Corp., 90 Broad St., New York 4, N. Y.
- Luecker, F. A.** (A'48), Plant Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Luedeking, Robert T.** (M'47), Civil Engr., Warner Construction Co., 5801 N. Clark St., 26.
- Luick, Adolph J.** (M'28), Partner, Lucas & Luick, 231 S. LaSalle St., 4.
- Lund, A. B.** (A'48), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Lund, E. Vera** (M'48), Partner, H. D. Clary, Architect, 453 W. 63rd St., 21.
- Lundberg, Harold H.** (M'47), Pres. & Elect. Engr., Wadeford Electric Co., 205 W. Wacker Dr., 6.
- Lungren, Edgar E.** (A'20;M'28-'31;'45), Vice Pres., Public Service Company of Northern Illinois, 72 W. Adams St., 3.
- Lundgren, Victor** (A'20;M'22), Struct. Engr., Public Works and Bldg. Div. of Waterways, 201 W. Monroe St., Springfield, Ill.
- Lundstrum, John E.** (A'38-'41;M'48), Lundstrum & Skubie, 53 W. Jackson Blvd., 4.
- Lurie, Benj. L.** (A'24-'38;M'42), Lurie & Lurie, 126 N. Union St., 6.
- Lurie, Erwin M.** (S'13;A'23;M'24), Nat'l. Dir., National Foundation for Lathing and Plastering, Inc., 173 W. Madison St., 2.
- Lusher, Miles H.** (M'48), Supt. of Power, Public Service Company of Northern Illinois, 908 Clark St., Evanston, Ill.
- Lusk, George E.** (S'48), 1804 S. 50th Ct., Cicero 50, Ill.
- Luttgens, Howard C.** (M'46), Div. Engr., National Broadcasting Co., Inc., 222 N. Bank Dr., 54.
- Lydon, Eugene K.** (J'28;A'31;M'43), Exec. Vice Pres., Great Lakes Dredge & Dock Co., 122 S. Michigan Ave., 3.
- Lyman, J. Frank** (A'20), 134 N. LaSalle St., 2.
- Lynch, William B.** (S'42;J'46), Arch. Draftsman, Montgomery, Ward & Co., 619 W. Chicago Ave., 10.
- Lynch, Wm. J., Jr.** (S'37;J'38;A'46), Pres., W. J. Lynch Company, 1 N. LaSalle St., 2.
- Lynn, C. V.** (M'40), Engrg. Dept., Sinclair Refining Co., 3500 Indianapolis Ave., East Chicago, Ind.
- Lynn, Eugene H.** (J'47), Plant Layout Engr., Illinois Tool Works, 2501 N. Keeler Ave., 39.
- Lynskey, J. Philip** (M'48), Engr., Commonwealth Edison Co., 72 W. Adams St., 90.
- Lyon, Earle D.** (M'47), Asst. Line Design Engr., Commonwealth Edison Co., 72 W. Adams St., 90.
- Lyon, Edward A., Jr.** (S'29;J'31;A'39), Div. Supv., Tidewater Associated Oil Co., Box 1101, Coalaling, Calif.
- Lyon, William D.** (A'48), Sr. Plant Engr., Illinois Bell Telephone Co., 215 W. Randolph St., 6.
- McArthur, Billings M.** (J'27;A'31;M'40), Asst. Engr., Inventory Control Div., Commonwealth Edison Co., 72 Adams St., 90.
- McCabe, (Mrs.) Edith R.** (J'48), 1135 S. Mason St., 44.
- McCain, Cecil C.** (M'44), Devel. Engr., Western Electric Co., Inc., Hawthorne Works, 23.
- McCallum, Verni E.** (M'43), Asst. Sta. Design Engr., Commonwealth Edison Co., 72 W. Adams St., 90.
- McCarty, Irving J.** (M'46), Pres., McCarty Brothers, Inc., 1846 Washington Blvd., 22.
- McCausland John W.** (A'24;M'38), Design Engr., Universal Oil Products Co., 310 S. Michigan Ave., 4.
- McClatchie, K. L.** (S'41;J'42), 251 Arlington Ave., Elmhurst, Ill.
- McClure, Clyde H.** (M'29-'35;M'36), Elmira, Oregon.
- McCLURG, Verne O.** (M'31) (President), Partner, Mundie, Jensen & McClurg, 39 S. LaSalle St., 3.
- McClurg, William M.** (J'48), Struct. Draftsman, Mundie, Jensen & McClurg, 39 S. LaSalle St., 3.
- McCollum, W. H.** (M'36), Gen. Asst., Public Service Company of Northern Illinois, 72 W. Adams St., 3.
- McComb, R. J.** (M'20-'29;'48), Vice Pres., Woodings-Verona Tool Works, 122 S. Michigan Ave., 3.
- McConnell, J. L.** (M'13), Partner, J. L. McConnell & Associates, 53 W. Jackson Blvd., 4.
- McConnell, Wm. M.** (M'43), J. L. McConnell & Associates, 53 W. Jackson Blvd., 4.
- McCormick, H. J.** (J'29-'36;'41), Engr., Link-Belt Co., 2410 W. 18th St., 8.
- McCreary, Harold J.** (A'25;M'37), Electronics Engr. Cons., Automatic Electric Co., 1033 W. Van Buren St., 7.
- McCreary, Watson B., Jr.** (S'29;J'31;A'34), Switchman, Illinois Bell Telephone Co., 641 N. Dearborn St., 10.
- McCullough, W. T., Jr.** (M'39), The Babcock Wilcox Co., 85 Liberty St., New York 6, N. Y.
- McDaniel, W. Lyle** (M'24), Vice Pres. & Ch. Engr., Massey Concrete Products Co., 122 S. Michigan Ave., 3.
- McDermott, Thomas A.** (A'45), American Telephone & Telegraph Co., 195 Broadway, New York 7, N. Y.
- McDonald, Daniel E.** (A'45), Address Unknown.
- McDonald, Lewis** (M'20), Vice Pres., Chicago Bridge & Iron Co., 332 S. Michigan Ave., 4.
- McDowell, Harold L.** (M'43), Engr., of Bldgs. (state area), Illinois Bell Telephone Co., 212 W. Washington St., 6.
- McElhiney, M. Milo** (Aff'47), Prof., Mech. Engrg., University of Alabama, Tuscaloosa, Ala.
- McElroy, Claud E.** (M'48), Draftsman, Sr. Grade, Commonwealth Edison Co., 72 W. Adams St., 90.
- McGlade, Leo** (A'47), Struct. Engr., Lawrence Peterson & Associates, 312 E. Wisconsin Ave., Milwaukee 2, Wis.
- McGrath, Raymond V.** (J'37;A'41), Engr., Chicago Bridge & Iron Co., 1305 W. 105th St., 43.
- McHugh, C. G.** (M'20-'28;'47), Field Engr., Illinois State Highway Dept., Division of Highways, Peoria, Ill.
- McJohnston, Claude A.** (A'48), Illinois Bell Telephone Co., 208 W. Washington St., 6.
- McKamy, Paul E.** (A'43), Carbody Design Engr., Fairbanks-Morse & Co., 220 S. State St., 4.
- McKee, John S.** (J'29;M'26), Room 1141, 53 W. Jackson Blvd., 4.
- McKee, Keith E.** (S'48), R. R. 1, Chicago Heights, Ill.
- McKenney, James R.** (A'36-'37;M'43), Right of Way Engr., Dept. of Subways & Superhighways, 20 N. Wacker Dr., 6.
- McKinzie, D. J.** (M'26), Ch. Mech. Engr., The Kellex Corporation, 233 Broadway, New York 1, N. Y.
- McKnight, Dana I.** (M'36), Vice Pres. & Treas., Boddy-McKnight Co., 501 Rogers St., Downers Grove, Ill.
- McLane, John D.** (M'46), Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.
- McLaren, Lewis L.** (M'29), Oswego, Ill.
- McLean, C. J.** (M'48), Gen. Hydraulic Engr., Public Service Company of Northern Illinois, 72 W. Adams St., 3.
- McMinds, Peter J.** (A'48), Engr., Illinois Bell Telephone Co., 725 Chicago St., Hammond, Ind.
- McNamara, Louis G.** (M'27-'34;'46), Arch.-Engr., 53 W. Jackson Blvd., 4.
- McNew, Delbert R.** (S'35-'37;A'43), Struct. Engr., Crosby Construction & Engineering Co., 185 N. Wabash Ave., 1.
- McNicol, John C.** (M'18), 2008 Tenth St., N., St. Petersburg, Fla.
- McNulty, Daniel H.** (M'41), Pres., Telephone Repair & Supply Co., 1760 Lunt Ave., 26.
- McShane, Joseph A.** (A'48), Illinois Bell Telephone Co., 6317 S. Maryland Ave., 37.
- Mabie, Don C.** (M'44), Asst. to Plant Engr., Bauer & Black, 2500 S. Dearborn St., 16.
- MacDonald, R. I.** (A'19), Engr., Alvord, Burdick & Howson, 20 N. Wacker Dr., 6.
- MACDOWELL, Charles H.** (M'19) (Past President), Retired, 1300 College Point, Winter Park, Fla.
- Mackie, N. S.** (M'28), Pres., N. S. Mackie Company, 228 N. LaSalle St., 1.
- Macklin, Charles** (M'48), Arch. & Struct. Engr., 206 S. Fourth St., Springfield, Ill.
- MacMillin, Howard F.** (M'47), Pres., MacMillin Engineering Corp., 6806 N. Clark St., 26.
- MACOMB, John DeNavarre** (M'19) (Trustee), Retired, 105 E. Delaware Pl., 11.
- MacPherson, T. C. H.** (A'31;M'36), 228 N. LaSalle St., 1.
- Madden, Lawrence M.** (S'41;J'43;A'47), Ch. Engr., General Industries, Inc., 3033 Wayne Terrace, Ft. Wayne, Ind.
- Madgouranis, George C.** (A'46), Struct. Designer, Ralph H. Burke, Orchard Airport.

Madson, Howard C. (A'26;M'37), Designer, Bridge Dept., C. & N. W. Ry., 400 W. Madison St., 6.
Magee, Carl T. (M'46), Sr. Engr., Commonwealth Edison Co., 72 W. Adams St., 90.
Magnus, Oscar F. (M'47), Research Engr., American Brake Shoe Co., 109 N. Wabash Ave., 2.
Magnuson, H. D. (A'47), Illinois Bell Telephone Co., 212 W. Washington St., 6.
Maha, O. J. (A'36;M'45), 1101 S. Kilbourn Ave., 24.
Mahnke, E. Chris E. (S'23;A'25-'33; '44), Military Engr., 1400 E. 53rd St., 15.
Mahoney, Harry P. (M'34), Gen. Mgr., Philippine Long Distance Telephone Co., Plaza Lawton, Manila, P. I.
Major, Russell E. (M'43), First Asst. Ch. Mech. Engr., Skidmore, Owings & Merrill, 100 W. Monroe St., 3.
Maldaner, Arthur (M'24), 30 N. LaSalle St., 2.
Maloney, John M. (M'43), Drawing Rm. Engr., American Bridge Co., Gary, Ind.
Malzahn, Lester W. (A'44), Mfg. Engrg., Western Electric Co., Inc., Hawthorne Works, 23.
Manchee, R. P. (M'47), Vice Pres.-Dir., Gerhardt F. Meyne Co., 7 S. Dearborn St., 3.
Mann, L. B. (Aff'44), Partner, Mann & Brown, 53 W. Jackson Blvd., 4.
Manning, W. L. (M'41), Pres., Burgess-Manning Co., East Park Ave., Libertyville, Ill.
Maras, John (M'45), Mech. Engr., Graham, Anderson, Probst & White, 80 E. Jackson Blvd., 4.

Marchetti, A. J. (S'44), 6257 S. State St., 21.
Marden, E. R. (A'36;M'47), 1444 W. Randolph St., 7.
Markle, M. G. (M'36-'37;'48), Gas Engr., Public Service Company of Northern Illinois, 1001 S. Taylor Ave., Oak Park, Ill.
Marquardt, J. Walter (M'40), Cons. Elect. Engr., 400½ E. Adams St., Springfield, Ill.
Marr, Gilbert (J'47), Sing-Kee, 11 Mott St., New York 13, N. Y.
Marsh, Don E. (M'13), Sanitary Engr., Rocky Mountain Arsenal, Denver 2, Colo.
Marsh, Edward J. (A'47), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
Marshall, Jay C. (M'47), Plant Engr., Procter & Gamble Mfg. Co., 1232 W. North Ave., 22.
Marshall, Stanley C. (J'46), Editor, Sauerman Bros., Inc., 523 S. Clinton St., 7.
Marston, W. R. (A'36;M'48), Traf. Engr., Chicago Transit Authority, 79 W. Monroe St., 90.
Martini, Hubert J. (M'36), 9444 Justine St., 20.
Martinsson, Gunnar R. C. (M'28-'30;'41), Ch. Engr., Atlas Tool Engineering Co., 824 W. Diversey Ave., 14.
Marvin, Arthur S. (M'44), Asst. Div. Engr., American Bridge Co., Frick Bldg., Pittsburg 19, Pa.
Marx, Lester M. (S'24;J'25;A'26-'29; M'35), Spec. Asst. to Comm., Federal Works Agency, 18th & F Sts., N.W., Washington, D. C.

Mason, A. W. (M'48), Staff Research Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
Mason, William Caton (M'42), St. Filtration Engr., City of Chicago, 220 S. State St., 4.
Massa, Erwin T. (A'44), Crane & Monorail Engr., Industrial Equipment Co., 315 N. Ada St., 7.
Massey, George B. (M'19), Cons. Engr., 53 W. Jackson Blvd., 4.
Masters, Frank H. (M'12), Retired, 907 Glenwood Ave., Joliet, Ill.
Mathews, L. T. (M'40), Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.
Mathews, W. W. (M'19), Supt., Gary Sanitary District, P. O. Box 388, Gary, Ind.
Mattauch, Frank A. (S'48), 2803 Ezra Ave., Zion, Ill.
Mauch, Norbert B. (S'38;J'39;A'42), West McHenry, Ill.
Mauere, L. (M'48), Vice Pres., Jefferson Electric Company, Bellwood, Ill.
Mavor, Hugh N. (M'48), Gen. Supt., Gerhardt F. Meyne Co., 7 S. Dearborn St., 3.
Maxson, R. D. (A'28-'38;M'45), Vice Pres., Public Service Company of Northern Illinois, 72 W. Adams St., 3.
Maxwell, Donald H. (M'19), 20 N. Wacker Dr., 6.
Maxwell, Marvin V. (M'46), Asst. Engrg. & Serv. Mgr., Westinghouse Electric Corp., 20 N. Wacker Dr., 6.
May, Matthew M. (M'48), Asst. Ch. Engr., Conveyor Systems, Inc., 325 S. California Ave., 12.
Mayer, Anton J. (Aff'48), Supv. & Engr., Buck Electrical Contractors, Inc., 4822 Addison St., 41.

... High, wide and handsome



• The Commodore Schuyler F. Heim Bridge over Cerritos Channel, the major link in the Terminal Island Access Freeway, was dedicated January 10, 1948. This bridge, built for the United States Navy, eliminates a serious bottleneck between the Island and the mainland in the Port of Los Angeles area.

American Bridge Company fabricated and erected the superstructure, which carries 6 lanes of traffic and features a movable span of exceptional size and lift — approximately 20,000 sq. ft. in floor area, and lifting 125 feet from closed to open position.

AMERICAN BRIDGE COMPANY
 GENERAL OFFICES: FRICK BUILDING, PITTSBURGH, PA.

Contracting offices in: BALTIMORE • BOSTON • CHICAGO
 CINCINNATI • CLEVELAND • DENVER • DETROIT • MINNEAPOLIS
 NEW YORK • PHILADELPHIA • ST. LOUIS

COLUMBIA STEEL COMPANY, SAN FRANCISCO
 PACIFIC COAST DISTRIBUTORS
 UNITED STATES STEEL EXPORT COMPANY, NEW YORK



AMERICAN BRIDGE

UNITED STATES STEEL

MEMBERSHIP

Mayer, Paul R. (S'48), 3216 W. Olive Ave., 45.
Mayo, Robert S. (S'22;J'24;A'29;M'38), Mayo Tunnel & Mine Equipment, Box 239, Lancaster, Pa.
Maywald, Leroy (A'48), Foreman, Sta. Instal., Commonwealth Edison Co., 72 W. Adams St., 90.
Medbery, Edward W. (M'48), Mill Mgr., Fieldcrest Mills, Zion, Ill.
Medeen, Howard E. (A'48), Plant Engr., Illinois Bell Telephone Co., 215 W. Randolph St., 6.
Mee, Charles L. (A'28-'35;M'48), Asst. Purch. Agent, Public Service Company of Northern Illinois, 72 W. Adams St., 3.
Mee, Sherwood E. (A'44), Illinois Bell Telephone Co., 208 W. Washington St., 6.
Meiller, Daniel V. (M'47), Staff Engr., Public Service Company of Northern Illinois, 1001 S. Taylor Ave., Oak Park, Ill.
Meissner, John F. (M'46), Cons. Engr., 407 S. Dearborn St., 5.
Melin, LeRoy A. (A'37-'41;'42;M'47), 2649 Leland Ave., 25.
Melnick, Timothy (A'48), Mech. Engr., The Babcock & Wilcox Co., 5 S. Wabash Ave., 3.
Mercier, Fernand E. (M'48), 2301 Sherman Ave., Evanston, Ill.
Merkelz, Frank W. (S'47), 2635 Haymond St., River Grove, Ill.
Merrill, Dot (M'48), Owner, Merrill & Company, 407 S. Dearborn St., 5.
Merrill, Edward A. (M'33), 100 W. Monroe St., 3.

Merrill, Jed J. (A'48), Field Engr., A. M. Byers Co., 135 S. LaSalle St., 3.
Merrill, Reginald D. (J'34;M'48), Exec. Engr., Stone Container Corp., 4200 W. 42nd Pl., 32.
Merriman, Chester F. (A'46), Asst. Engr., City of New York, Municipal Bldg., New York, N. Y.
Meschter, Elwood, Jr. (A'46), Design Engr., Link-Belt Co., 300 W. Pershing Rd., 9.
Metz, Carl A. (M'37), Partner, Shaw, Metz & Dolio, 208 S. LaSalle St., 4.
Metzger, Clifton J. (A'29;M'38), Civil Engr., Powers-Thompson Construction Co., Gary Sheet & Tin Mill, Gary, Ind.
Meyer, John J. (A'45), Illinois Bell Telephone Co., 208 W. Washington St., 6.
Meyer, Martin (M'43), Asst. Sales Mgr., Sauerma Bros., Inc., 522 S. Clinton St., 7.
Meyn, Paul F. (J'31;A'36), Ch. Engr., The Gaertner Scientific Corp., 1201 W. Wrightwood, 14.
Meyne, Gerhardt F. (M'47), Pres., Gerhardt F. Meyne Company, 7 S. Dearborn St., 3.
Michaels, Ernest E. (A'23-'32;M'48), Vice Pres., Operations, Chicago Bridge & Iron Co., 1305 W. 105th St., 43.
Michel, Ralph F. (M'44), Traf. Signal Engr., City of Chicago, City Hall, 2.
Mickiewicz, Stanley R. (S'48), Student Engr., Ahlberg Bearing Co., 3047 W. 47th St., 32.
Miller, Carl G. (A'35;M'42), Asst. Dist. Mgr., Weston Electrical Instrument Corp., 205 W. Wacker Dr., 6.
Miller, C. Marshall (A'47), Engr., Illinois Bell Telephone Co., 215 W. Randolph St., 6.

Miller, Donald W. (M'46), Engr. of Boiler Div., Vapor Car Heating Co., Inc., 4509 W. 16th St., 23.
Miller, Edward A. (A'47), U. S. Air Force, GAFB, Box 429, Greenville, S. C.
Miller, Gail L. (J'48), Asst. Sewer Designer, Bureau of Sewers, 188 W. Randolph St., 1.
Miller, Kenneth W. (A'35-'40;M'45), Asst. Dir. of Research, Armour Research Foundation, 35 W. 33rd St., 16.
Miller, Merton R. (A'36;M'47), Mfg. Devel. Engr., Western Electric Co., Inc., Hawthorne Works, 23.
Milligan, Leslie W. (J'48), Commonwealth Edison Co., 72 W. Adams St., 90.
Minkus, Fred (S'48), 1349 E. Marquette Rd., 37.
Mintz, N. M. (M'45), Sales Engr., N. M. Mintz & Associates, 7357 Cottage Grove Ave., 19.
Mitchell, A. J. (M'41), Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.
Mitchell, A. R. (M'20), Asst Engr., A. T. & S. F. Ry. System, 80 E. Jackson Blvd., 4.
Mitchell, Chester F. (M'36), Staff Engr., Commonwealth Edison Co., 72 W. Adams St., 90.
Mitchell, James I. (J'25;A'29;M'48), Asst. Mgr., Power Supply, Public Service Company of Northern Illinois, 3.
Mitchell, Jay G. (M'22-'29;'46), Cons. Elect. Engr., 7720 Sheridan Rd., 26.
Mitchell, Roy C. (J'07;M'09), Arch. & Struct. Engr., Federal Housing Administration, 112 W. Ninth St., Los Angeles, Calif.
Mittelmann, Eugene (M'40), Cons. Engr., 549 W. Washington St., 6.
Mitten, George R. (M'24-'32;'47), Mgr., Indus. Devel., Public Service Company of Northern Illinois, 72 W. Adams St., 3.
Mitzenmacher, Erwin (S'48), Instructor, American Telephone Labs. of California, 5624 Sunset Blvd., Los Angeles, Calif.
Moberg, Alfred R., Jr. (S'48;J'48), Student Engr., Illinois Bell Telephone Co., 138 S. Locust St., Centralia, Ill.
Moffat, James David (M'46), Ch. Engr., Western Region, Pennsylvania Railroad Co., Union Station, 6.
Molke, Eric C. (M'43), Ch. Engr., Roberts & Schaefer Co., 130 N. Wells St., 6.
MONROE, Wm. S. (M'01;Hon.M'46) (Past President), Retired, 105 S. La Salle St., 3.
Montblanc, E. P. (M'28-'35;'44), Owner, General Survey Co., 1509 W. Jackson Blvd., 7.
Montgomery, Martin W. (M'47), Sr. Engr., Commonwealth Edison Co., 2233 S. Throop St., 8.
Mooney, J. R. (M'42), Gen. Mgr., Tex-steel Mfg. Co., Fort Worth 9, Texas.
Moore, Charles A. (A'48), Proj. Engr., William A. Pope Co., 26 N. Jefferson St., 6.
Moore, Daniel E. (M'48), Equip. Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
Moore, Maurice J. (J'48), Student Engr., Illinois Bell Telephone Co., 215 W. Randolph St., 6.
Moosbrugger, Frank J. (A'35;M'43), Engr., Public Service Company of Northern Illinois, Box 278, Glencoe, Ill.
Morey, Albert A. (M'45), Vice Pres., Marsh & McLennan, Inc., 231 S. LaSalle St., 4.

EHRET AND KINSEY

327 S. LaSalle Street

WA bash 2-4146

CHICAGO 4, ILLINOIS

Representing:

CLEVELAND WORM & GEAR COMPANY

Worm Gearing and Worm Gear Reducers

THE FARVAL CORPORATION

Centralized Lubricating Systems

LUBRICATION PRODUCTS COMPANY

Stapax Journal Box Lubricators

WALDES KOHINOOR, INC.

Truarc Retaining Rings

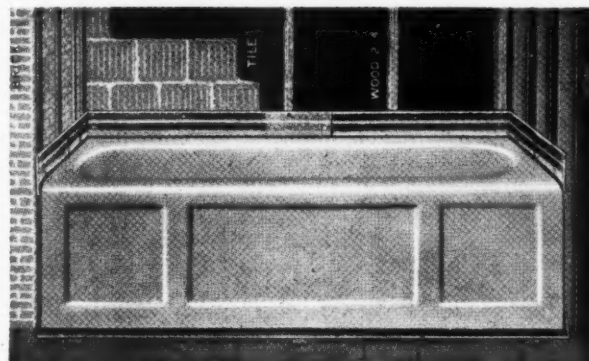
AMERICAN FLEXIBLE COUPLING COMPANY

American & Amerigear Flexible Couplings

E. J. EHRET

JOHN D. KINSEY

- Morey, Charles W.** (M'06), Pres., Chicago Technical College, 2000 S. Michigan Ave., 16.
- Morgan, F. M.** (A'41), Super. Engr., Automatic Canteen Co., 222 W. North Bank Dr., 54.
- Morgan, George A.** (A'36;M'47), Asst. Statistician, Peoples Gas Light & Coke Co., 122 S. Michigan Ave., 3.
- Morgan, Harold H.** (M'28), Vice Pres. & Ch. Engr., Robert W. Hunt Company, 175 W. Jackson Blvd., 4.
- Morgan, J. Grant** (M'28), P. O. Box 638, Honolulu 9, T. H.
- Morison, James R.** (M'48), Arch., University of Chicago, 956 E. 58th St., 37.
- Mormann, Edwin C.** (Aff'29), Supv., Western Electric Co., Hawthorne Works, 23.
- Morris, John A.** (A'38), Co-ordinator of Level. Schedule, General Electric X-Ray Corp., 4855 W. McGeech Ave., Milwaukee 14, Wis.
- Morrison, Ray E.** (A'48), Equip. Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Morrison, R. J.** (A'48), Supv., of Inventory Control, Public Service Company of Northern Illinois, 114 N. Oak Park Ave., Oak Park, Ill.
- Morrison, Rudolph A.** (M'20), Elect. Engr., 5454 South Shore Dr., 15.
- MORROW, F. E.** (M'14) (Past President), Retired, 137 N. Ridgeland Ave., Oak Park, Ill.
- MORSE, C. A.** (M'14) (Past President), Retired, New Station Hospital, Ft. Devens, Mass.
- Morse, Ted B.** (A'34;M'43), University of California, Sandia Base Branch, SLA, Albuquerque, N. M.
- Mortara, H. T.** (A'46), Vice Pres., Lennox Mfg. Co., 5000 S. Halsted St., 9.
- Moseley, Raymond E.** (A'47), Asst. Engr., Illinois Bell Telephone Co., 6317 Maryland Ave., 37.
- Moss, R. S.** (M'06), Retired, 1537 W. 47th St., Los Angeles, Calif.
- Mote, Thomas H.** (M'40), Equip. Design Engr., Automatic Electric Co., 1033 W. Van Buren St., 7.
- Mottier, C. H.** (M'20), Vice Pres. & Ch. Engr., Illinois Central Railroad, 135 E. 11th Pl., 5.
- Moyer, Fred D.** (M'43), Engr., Chicago Bridge & Iron Co., 1305 W. 105th St., 43.
- Mueller, Carl F.** (J'47), Sec'y., Mueller Construction Co., 318 W. Randolph St., 6.
- Mueller, Carl O.** (M'48), Pres., Mueller Construction Co., 318 W. Randolph St., 6.
- Mueller, Fred G.** (M'45), Apparatus Engr., Commonwealth Edison Co., 2233 S. Throop St., 8.
- Mueller, John E.** (A'46), Ch. Engr., Wendnagel and Company, Inc., 600 W. Cermak Rd., 16.
- Mueller, Philip R.** (A'47), Special Engr., B & O Railroad, Baltimore & Chase Sts., Baltimore 1, Md.
- Mueller, Stephen J.** (A'43), Sales Engr., Conveyor Systems, Inc., 325 S. California Ave., 12.
- Muir, Herbert H.** (M'36), McKiernan-Terry Corp., Manor Ave., Harrison, N. J.
- Mulford, Edgar T.** (M'28), Owner & Cons. Engr., Mulford Engineering Co., 1541 Chicago Rd., Chicago Heights, Ill.
- Mullins, Thomas Clinton** (M'28), Pres., Northern Illinois Coal Corp., 310 S. Michigan Ave., 4.
- Mulrenin, John J.** (Aff'48), Mech. Supt., Albert Kahn Assoc., Arch. & Engrs., Inc., New Center Bldg., Detroit, Mich.
- Mulvanny, John J.** (M'47), 350 Park Ave., W., Mansfield, Ohio.
- Munster, Richard A.** (M'48), Commonwealth Edison Co., 72 W. Adams St., 90.
- Murbach, Edw. C.** (A'36;M'44), Est. Engr., Link-Belt Co., 2410 W. 18th St., 8.
- Murphy, Clarence R.** (M'39), Engr. Draftsman, Natural Gas Pipeline Co., 20 N. Wacker Dr., 6.
- Murphy, Edward R.** (J'26;A'29), Mngng. Director, Vermiculite Institute, 208 S. LaSalle St., 4.
- Murphy, Mary L.** (A'48), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Murr, Milton** (A'20;M'26), Owner, Murr Outdoor Products Co., 1606 Larabee St., 14.
- Murray, Arthur P.** (M'48), Div. Personnel Supr., Illinois Bell Telephone Co., 1025 Sunnyside Ave., 40.
- Myers, Walter J.** (S'34;J'35;A'38-42;M'45), Bldg. Engr., Nester Block, Marquette, Mich.
- Nack, Leo W.** (M'48), Staff Planner-Cable Const., Commonwealth Edison Co., 72 W. Adams St., 90.
- Naehr, Harry F.** (M'42), Ch. of Utilities, Post Engineer Office, Fort Benning, Ga.
- Nagler, K. B.** (A'24;M'37), The Peoples Gas Light & Coke Co., 122 S. Michigan Ave., 3.
- Nalbach, John R.** (M'37), Cons. Engr., 53 W. Jackson Blvd., 4.
- Nankivil, R. M.** (M'46), Partner, Jenkins, Merchant & Nankivil, 805 E. Miller St., Springfield, Ill.
- Nass, Vincent W.** (J'27;A'28-31;M'47), Supv. Meter Engr., Commonwealth Edison Co., 140 S. Dearborn St., 3.
- Neighbour, David J.** (Aff'48), Div. Pers. Supv., Illinois Bell Telephone Co., 6317 S. Maryland Ave., 37.
- Nelson, Albert L.** (M'45), Vice Pres., The L. E. Myers Co., 53 W. Jackson Blvd., 4.
- Nelson, A. E.** (M'47), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Nelson, Carl E.** (M'28), Div. Supt., Great Lakes Dredge & Dock Co., 122 S. Michigan Ave., 3.
- Nelson, Charles, Jr.** (M'46), Ch. Engr., Ahlberg Bearing Co., 3025 W. 47th St., 32.
- Nelson, Charles J.** (A'48), Elect. Design Draftsman, Public Service Company of Northern Illinois, 72 W. Adams St., 3.
- Nelson, Edward E.** (A'48), 1029 Woodlawn Ave., Des Plaines, Ill.
- Nelson, Edwin F.** (M'48), Vice Pres., Universal Oil Products Co., 310 S. Michigan Ave., 4.
- Nelson, George W.** (A'36-38;M'47), Supv. of Substation Oper. Personnel, Chicago Transit Authority, 2141 W. Grand Ave., 12.
- Nelson, Martin L.** (A'34-'43;M'47), Vice Pres. & Ch. Engr., Production Instrument Co., 710 W. Jackson Blvd., 6.
- Nelson, Morris O.** (S'28;J'30;A'35;M'42), Vice Pres., J. P. Miller Artesian Well Co., 161 W. Wisconsin Ave., Milwaukee 3, Wis.
- Nelson, Robert M.** (M'46), Engr. Midwestern Contractors Inc., N. Main St., Wheaton, Ill.
- Nelson, Robert T.** (S'48), 133 W. 116th St., 28.
- Nelson, William E.** (A'29), Engr., Induct. Coordination, Public Service Company of Northern Illinois, 72 W. Adams St., 3.
- Nelson, W. P.** (M'20), Retired, 4327 Trias St., San Diego 3, Calif.
- Nessel, Charles M.** (A'31;M'39), Mach. Procurement Engr., Western Electric Co., Inc., Hawthorne Works, 23.
- NETHERCUT, Edgar S.** (M'04) (Secretary Emeritus), 1704 Hinman Ave., Evanston, Ill.
- Neubauer, E. O.** (M'28), Transm. Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.
- Neveling, Aloys, Sr.** (M'28-44;M'47), Cons. Engr., R. R. 1, Hartford, Wis.
- Newell, Russell J.** (S'24;J'26-'31;M'44), Dist. Traffic Engr., Illinois Division of Highways, 160 N. LaSalle St., 1.
- Newling, Lawrence H.** (A'45), Off. Engr., Stone & Webster Engineering Corp., Whiting, Ind.
- Newman, Ronald J.** (A'47), 175 W. Jackson Blvd., 4.



The Modern Way to Prevent Leaks

There is no excuse for cracks, leaks or repair expense in good building. Leading architects specify LUCKE to overcome this problem. Lucke Hangers build tub into wall. No Leaks—No Cracks—No Repair Expense.

Designed - Patented - Manufactured by

WILLIAM B. LUCKE, Inc.

WILMETTE

For
Trouble-Free
Bath Tub
Edges
Specify
LUCKE
Leak-Proof
Bath Tub
Hangers

ILLINOIS

MEMBERSHIP

Newman, Thomas P. (M'40), Engr., Pottery & Enamelware, Crane Co., 4100 S. Kedzie, 32.

Nichols, Henry W. (M'16), Retired, 7021 Jeffery Ave., 49.

Nichols, Samuel F. (M'96), 2400 W. Madison St., 12.

Nickel, D. A. (M'45), Elect. Cont., 840 E. 10th St., Tucson, Ariz.

Nickel, Jack E. (A'48), Exec. Asst., Neiler, Rich & Bladen, 431 S. Dearborn St., 5.

Nielsen, Elker R. (M'48), Pres., S. N. Nielsen Co., 3059 Augusta St., 22.

Nielsen, Harvey C. (J'48), Supt. of Const., Thomas J. Higgins & Associates, 228 N. LaSalle St., 1.

Nieman, Bernard G. (A'48), Plant Engr., Illinois Bell Telephone Co., 131 N. Franklin, 6.

Niemann, F. A. (M'19), Inventor & Mech. Engr., Felt & Tarrant Mfg. Co., 1735 N. Paulina St., 22.

Nienaber, Theo. G. (A'46), 2605 Payne St., Evanston, Ill.

Niestadt, Fred A. (M'28), Project Manager, Ragnar Benson, Inc., 4744 W. Rice St., 51.

Niestadt, Geo. W. (M'20), Partner, Niessstadt & Love, 407 S. Dearborn St., 5.

Nill, Raymond W. (S'42-43; J'47), Jr. Engr., Signal Oil Co., 1221 S. Western Ave., Los Angeles 46, Calif.

Nilson, Arthur N. (M'44), Engr., Teletype Corp., 1400 Wrightwood Ave.

Nitsche, Edward A. (M'44), Arch. & Engr., 2843 N. Kilbourn Ave., 41.

Noethling, Clarence M. (M'38), 1202 Montana St., 14.

Norman, Charles M. (M'20), 121 N. LaSalle St., 2.

Norman, Milton E. (A'24-'34; M'43), Designer, American Bridge Co., 208 S. LaSalle St., 4.

Normann, Carl (M'30), Ch. Engr., Janette Mfg. Co., 556 W. Monroe St., 6.

North, William Lee (J'48), Steam Prod. Engr., Velocity Steam Production Engineering, Inc., 38 S. Dearborn St., 3.

Northquist, Ruben A. (A'20-35; M'47), Ch. Engr. & Supt., Carl E. Erickson Co., 4657 N. Ravenswood Ave., 40.

Norwood, John F. (A'41), 1029 W. Adams St., 7.

Norton, O. P. (M'28), Plt. Supv., Illinois Bell Telephone Co., 212 W. Washington St., 6.

Novotny, George F. (A'47), Equip. Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.

Nowell, Keith P. (A'31; M'47), Factory Elect. Engr., Western Electric Co., Inc., Hawthorne Works, 23.

Nusz, W. G. (M'19), Office Engr., Illinois Central R. R. Co., 135 E. 11th Pl., 5.

Nydam, B. E. (A'47), Supv. Engr., Pick Hotels Corporation, 20 N. Wacker Dr., 6.

Oberding, Allen J. (A'45), Supplies Engr., Illinois Bell Telephone Co., 2411 W. 23rd St., 8.

Oberg, Elmer D. (M'40), Ch. Insptr., Western Union Telegraph Co., 1029 W. Adams St., 7.

Obert, David L. (S'47), Jr. Subway Civil Engr., Dept. of Subways & Superhighways, 501 S. Plymouth Ct., 5.

O'Brien, James M. (M'48), Illinois Bell Telephone Co., 208 W. Washington St., 6.

O'Brien, Kenneth W. (A'47), Asst. Engr., C. M. St. P. & P. R. R. Co., 2599 W. Grand Ave., 12.

O'Brien, W. P. (M'48), Works Mgr., W. D. Allen Manufacturing Co., 650 S. 25th St., Bellwood, Ill.

Obszarny, T. J. (M'43), Asst. Ch. Engr., Guardian Electric Manufacturing Co., 1621 W. Walnut St., 12.

O'Connor, Roger R. (A'29; M'38), Transmission Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.

O'Connor, Thomas B. (M'47), Asst. Supt. of Trans., Chicago Transit Authority, 79 W. Monroe St., 90.

O'Connor, William T. (J'48), Asst. to Estimator, Peter Hamlin Construction Co., 9 S. Clinton St., 6.

Oddo, Dominic V. (S'44; J'46), Asst. Engr., Arabian American Oil Co., Dhahran, Saudi, Arabia.

Oetzell, Walter A. (J'48), Student Engr., Illinois Bell Telephone Co., 215 W. Randolph St., 6.

Oldenburg, Carl R. (J'31; A'41-'43; M'47), Sr. Engr., Illinois Bell Telephone Co., 5643 Broadway, 40.

Olfe, Virgil M. (M'43), Designer, American Bridge Co., 208 S. LaSalle St., 4.

Olmsstead, Evan E. (A'49), Specifications Engr., Chicago Transit Authority, 79 W. Monroe St., 3.

Olsen, Ernest H. (A'36; M'40), Cons. Engr., 410 N. Michigan Ave., 11.

Olsen, Roy A. (A'19), Draftsman, C. B. & Q. R. R., 547 W. Jackson Blvd., 6.

Olshewsky, Val (S'27; J'29; A'34), 345 N. Jacobs St., South Bend, Ind.

Olson, George E. (A'40), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.

Olson, Howard R. (A'28; M'32), Sec'y. (Planning Engr.), Chicago Regional Planning Association, 79 W. Monroe St., 3.

Olson, Verner B. (M'47), 1430 Foster Ave., 40.

Oneal, Claire E. (M'47), City Planner, Chicago Plan Commission, 20 N. Wacker Dr., 6.

O'Neil, Arthur F. (M'48), Treas., W. E. O'Neil Construction Co., 2751 Clybourn Ave., 14.

O'Neill, Albert J. (A'48), 9506 S. Winchester Ave., 43.

Ormsby, Orville H. (A'46), Designer & Estimator, American Bridge Co., 208 S. LaSalle St., 4.

Orr, Frank L. (S'16; Aff'19-'31; A'43), Silas Mason Co., Iowa Ordnance Plant, Burlington, Iowa.

Osborn, C. M. (M'35), 519 Richmond St., Kenilworth, Ill.

Oseth, Howard T. (A'47), McCarthy Improvement Co., P. O. Box 1288, Portsmouth, Ohio.

Outline, John E. (M'45), Svstems Devel. Engr., Automatic Electric Co., 1033 W. Van Buren St., 7.

Ostrander, R. M. (A'28; M'46), Supv. Planning Engr., Commonwealth Edison Co., 72 W. Adams St., 90.

O'Toole, William A. (J'48), Plant Engr., Illinois Bell Telephone Co., 215 W. Randolph St., 6.

Ott, William N. (J'40-'43; A'43), Asst. Plant Engr., Dole Valve Co., 1931 W. Carroll Ave., 7.

Otto, Harold W. (A'48), Supt. of Power, Public Service Company of Northern Illinois, 423 Childs St., Wheaton, Ill.

Ottoman, Edward, Jr. (M'24), Dean of Engrg., Chicago Technical College, 2000 S. Michigan Ave., 16.

Oughton, A. C. (M'45), Pres., A. C. Oughton Co., 2312 W. Touhy Ave., 45.

Overmier, Emmons (M'24), Vice Pres.-Engr., Maintenance Equipment Co., 80 E. Jackson Blvd., 4.

Ovitt, Reginald A. (S'29-'30; A'46), Sr. Plant Engr., Illinois Bell Telephone Co., 6317 Maryland Ave., 37.

Paetzold, W. Burton (A'44), 7039 S. Elizabeth St., 36.

Page, J. W. (M'98), Clearing Station, 38.

Page, Peter M. (A'38), Traffic Const. & Maint. Supv., Chicago Park District, 425 E. 14th Blvd., 5.

Paine, Clifford E. (M'38), Fennville, Mich.

Paine, Ellery B. (M'26), Retired, 606 Pennsylvania Ave., Urbana, Ill.

Paintin, Edwin L. (M'46), 208 W. Washington St., 6.

Palm, William J. (A'43), 14 E. Ontario St., 11.

Palmer, Guy P. (M'20), Reg. Engr., Const. & Maint., B. & O. Chicago Terminal R. R., Grand Central Sta., 7.

Palmquist, D. W. (S'43; J'44), Elect. Test. Engr., The Superheater Co., 151st & Railroad, East Chicago, Ind.

Papantony, John G. (A'46), Wire Ch., Illinois Bell Telephone Co., 6045 S. Kenwood Ave., 37.

Papp, Andrew E. (M'47), Ch. Engr., G & W Electric Specialty Co., 7780 Dante Ave., 19.

Pardee, Harvey S. (M'19-'32; '99), Owner, Harvey S. Pardee & Associates, 549 W. Washington St., 6.

Parisi, Joseph C. (A'47), Sr. Engr., Illinois Bell Telephone Co., 6317 S. Maryland Ave., 37.

Park, William M. (M'18), Dist. Supt., Service & Erection, Combustion Engineering Co., Inc., 105 W. Adams St., 3.

Parke, Stanley F. (M'48), Ch. Draftsman, Ahlberg Bearing Co., 3025 W. 47th St., 32.

Parker, Lawrence G. (M'28), Struct. Engr., Federal Works Agency, Public Bldgs. Admin., 18th & F Sts., N.W., Washington 25, D. C.

Parkinson, James A. (A'48), Supt. Communi., A. T. & S. F. Ry., 80 E. Jackson Blvd., 4.

FREYN ENGINEERING COMPANY

Established 1914

CONSULTING ENGINEERS

for

Blast Furnaces—Steel Works—
Industrial Plants
Industrial Power Generation and Use

Technical and Financial Reports
Surveys—Appraisals
Designs and Supervision of Construction

109 North Wabash Avenue
CHICAGO 2

FULTON ASPHALT CO.

"Since 1870"

ASPHALT MASTIC FLOORS
ACID PROOF MASTIC FLOORS
INDUSTRIAL COMPOSITION FLOORS
HASTINGS COMPRESSED ASPHALT
BLOCK FLOORS

165 W. Wacker Dr., Chicago 1

RA ndolph 6-1760

Parks, Burritt A. (M'47), Maint. Engr., Crane Co., 4100 S. Kedzie Ave., 5.
Parmely, J. C. (M'30), Midwest Piping & Supply Co., 1450 S. Second St., St. Louis, 4.
Parmer, John F. (M'26-'33;'47), Civil Engr., 39 S. LaSalle St., 3.
Parrott, John R. (A'48), Supv., Commonwealth Edison Co., 72 W. Adams St., 90.
Parsons, Walter J. (M'02), Retired, 1408-39th St., Sacramento 16, Calif.
Pasquinelli, S. (M'36), Pres., National Survey Service, Inc., 134 N. LaSalle St., 2.
Patterson, Raymond (M'44), Reg. Vice Pres., Intrusion Prepack, Inc., 80 E. Jackson Blvd., 4.
Paul, Charles E. (M'18), Retired, 1528 Farwell Ave., 26.
Paul, Theodore J. (A'41), Civil & Struct. Engr., Starke Co., Inc., 21 E. Van Buren St., 5.
Paulson, Roy A. (M'47), Contracting Engr., Allied Structural Steel Co., 20 N. Wacker Dr., 6.
Pearse, Langdon (M'10), Sani. Engr., Sanitary District of Chicago, 910 S. Michigan Ave., 5.
Pearson, Elmer I. (A'43), Proj. Engr., Carnegie-Illinois Steel Corp., 3426 E. 89th St., 17.
Pearson, Harold T. (M'48), Engr., Commonwealth Edison Co., 72 W. Adams St., 90.
Peck, Henry C. (M'46), Traffic Engrg. Designer, Chicago Park District, 425 E. 14th Blvd., 5.
Pederson, Clarence B. (M'43), 1226 Jarvis Ave., 26.
Peebles, James C. (M'48), Retired, 301 W. Marquette Rd., 21.
Peeney, Georgiana (J'29;A'36;M'46), Engr., Lansing B. Warner, Inc., Merchandise Mart Plaza, 54.
Pendell, Charles W. (M'19), Treas., Electrical Engineers Equipment Co., 1502 N. 25th Ave., Melrose Park, Ill.
Penfield, W. H. (M'20), Retired, Hotel Glenview, Mt. Carroll, Ill.
Penn, Harry J. (A'18;M'37), Draftsman, Missouri Pacific R. R. Co., 13th & Olive Sts., St. Louis, 3, Mo.
PENN, Henry (M'36) (Trustee), Dist. Engr., American Institute of Steel Construction, Inc., 53 W. Jackson Blvd., 4.
Penn, John C. (J'06;A'10;M'16), Prof. of Civil Engrg., Illinois Institute of Technology, 3300 Federal St., 16.
Pereira, Morton L. (M'28-'35;'42), Owner, Morton L. Pereira & Associates, 100 W. Monroe St., 3.
Perkins, Ruth H. (M'48), Arch., Bert-ram A. Weber, 221 N. LaSalle St., 1.
Perkins, W. A. (M'36), Equip. Engr., International Harvester Co., 180 N. Michigan Ave., 1.
Perkins, W. H. (M'42), Power Cons., Automatic Electric Co., 1033 W. Van Buren St., 7.
Perkowski, N. (S'48), 2351 Milwaukee Ave., 47.
Perry, W. A. (M'41), Asst. to Gen. Supt., Inland Steel Co., 3210 Watling, East Chicago, Ind.
Persson, Carl (A'36;M'44), Sr. Design Engr., Acme Steel Co., Riverdale Sta., 27.
Petelle, James F. (A'45), Ch. Tool Engr., Stirling Tool Products Co., 1340 Milwaukee Ave., 22.
Peterman, Walter C. (S'33;J'35;A'41), Asst. Dist. Traf. Engr., Illinois Division of Highways, 160 N. LaSalle St., 1.
Petersen, H. G. (M'20), Chicago Transit Authority, 79 W. Monroe St., 3.
Petersen, M. L. (A'34;M'48), Engr., Commonwealth Edison Co., 72 W. Adams St., 90.
Petersen, R. W. (A'48), Sr. Engr., Illinois Bell Telephone Co., 215 W. Randolph St., 6.
Peterson, A. R. (A'48), Sr. Asst. Sub-way Designer, Dept. of Subways & Superhighways, 20 N. Wacker Dr., 6.
Peterson, B. E. (S'37;J'39;A'44), Plant Mgr., Industrial Equipment Co., 315 N. Ada St., 7.
Peterson, C. T., Jr. (J'48), Designer-Draftsman, Clayton Mark & Co., 1900 Dempster St., Evanston, Ill.
Peterson, C. J. (S'25-'29;A'42), Designer & Draftsman, Dept. of Public Works, City of Vallejo, Vallejo, Calif.
Peterson, D. C. (M'48), Dir. of Engrg., Stewart-Warner Corp., 1826 Diversey Pkwy., 14.
Peterson, F. E. (S'42;J'43), Foreman, Bulley & Andrews, 2040 W. Harrison St., 12.
Peterson, J. E. (S'33;J'36;A'39-'41;'47), Draftsman-Engr., C. B. & Q. R. R., 547 W. Jackson Blvd., 6.
Peterson, R. S. (M'43), Line Design Engr., Commonwealth Edison Co., 72 W. Adams St., 90.
Peterson, Reuben F. (M'48), Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.
Peterson, R. C. (A'46), Assoc. Prof., Illinois Institute of Technology, 3300 S. Federal St., 16.
Peterson, V. O. (S'30;Aff'31;A'44), 2736 N. Monitor Ave., 39.
Peterson, V. A. (J'31;A'37;M'47), Partner, Langer, Perry, Card & Langner, 53 W. Jackson Blvd., 4.
Petrie, Alfred E. (A'40), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
Petters, F. W. (A'47), Mech. Engr., Jos. T. Ryerson & Son, Inc., 2558 W. 16th St., 8.
Pettersen, H. C. (A'28;M'47), Sr. Plant Draftsman, Commonwealth Edison Co., 72 W. Adams St., 90.

Pettyjohn, E. S. (M'48), Dir., Institute of Gas Technology, 3300 Federal St., 16.
Phlanz, Erne (A'45), Res. Engr., Wm. C. Olsen, Bldg. & Loan Bldg., Raleigh, N. C.
Phelps, Marion A. (M'40), Struct. Engr., Great Lakes Carbon Corp., 333 N. Michigan Ave., 1.
28—23091—Carp Fleming - 1-12 .SEC
Phillips, Guy W. (M'46), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
Phillips, Raymond J. (M'29), 1117 E. Court St., Iowa City, Iowa.
Phillips, Thurman A. (A'27), Designing Engr., Corn Products Refining Co., 222 W. Adams St., 6.
Pickens, Reo N. (M'44), Asst. Engr., C.N.S. & M. Ry. Co., 79 W. Monroe St., 3.
Piepho, Edward E. (M'48), Elect. Engr., Joslyn Mfg. & Supply Co., 969 W. 37th Place, 9.
Pierce, J. N. (Aff'06;M'30), Sr. Partner, Pierce Electric Company, 367 W. Adams St., 6.
Pillsbury, C. S. (J'09;M'17), Vice Pres. & Treas., Chicago Bridge & Iron Co., 1305 W. 105th St., 43.
Pirola, Louis (M'46), Partner, Pirola & Erbach, 221 N. LaSalle St., 1.
Plambeck, Wm. F. (J'27;A'29), Partner, Plambeck & Grumish, 255 E. Oak St., Kankakee, Ill.
Plummer, R. L., Jr. (J'34;A'39), Indus. Engr., Westinghouse Electric Corp., Hyde Park, Boston, Mass.
Plym, L. M. (M'36), Elect. Coordination Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
Poedtke, Carl H. (M'48), Safety Engr., U. S. Fidelity & Guaranty Co., 170 W. Jackson Blvd., 4.

E. R. GRITSCHKE

Consulting Engineers

Designers of

MECHANICAL and
ELECTRICAL SYSTEMS
for BUILDINGS

11 S. LaSalle St., Chicago 3

Est. 1914

Frank A. Randall and Sons

Civil and Structural Engineers

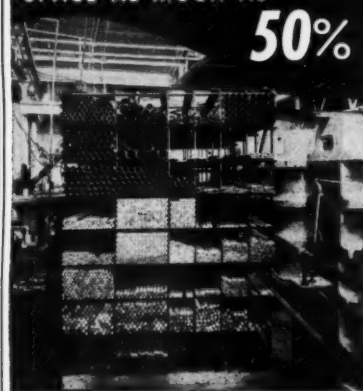
BUILDINGS, STRUCTURES AND
FOUNDATIONS

205 W. Wacker Drive Chicago 6

ECONO-RACK

INCREASES YOUR STORAGE
SPACE AS MUCH AS

50%



THE RUGGED, FLEXIBLE MODERN STORAGE METHOD

For storage of bar steel, plates, palletized material, etc. ECONO-RACK has a wide range of uses. Saves space, provides easy access to stock, simplifies inventory, inexpensive.

Write for bulletin ER-105
or ask for quotation on your
specific requirement.

ABELL-HOWE CO.

Engineers — Contractors — Manufacturers
53 W. Jackson Blvd., Chicago 4, Ill.

MEMBERSHIP

- Pohl, Hans E. K.** (M'37), Crane Company, 4100 S. Kedzie Ave., 5.
- Pohlmann, Edward F.** (M'28), Ch. Testing Engr., The Peoples Gas Light & Coke Co., 122 S. Michigan Ave., 3.
- Polk, Wesley W.** (M'28), Ch. Highway Engr., State of Illinois, Centennial Bldg., Springfield, Ill.
- Pollak, Manfred J.** (A'48), Cons. Engr., & Physicist, 7530 Sheridan Rd., 25.
- Pollenz, Stanley** (A'48), Engr., Central Office Planning, Illinois Bell Telephone Co., 212 W. Washington St., 6.
- Pomy, Herman J.** (A'30;M'41), Major, 0-186202, Dir., I & M Division, Sig. Sv. Hdqts.—AGFPAC, APO 958, c/o Postmaster, San Francisco, Calif.
- Poole, Frederick M.** (S'22;J'25;A'31;M'40), Asst. Engr. of Sewer Design, City of Chicago, Bureau of Sewers, 188 W. Randolph St., 1.
- Poor, Fred A.** (M'19), Chairman, Poor & Co., 80 E. Jackson Blvd., 4.
- Poppe, Charles J.** (A'43), Proj. Engr., Construction Aggregates Corp., El Segundo, Calif.
- Porter, Alan A.** (M'43), Mgr. of Erection, American Bridge Co., 208 S. LaSalle St., 4.
- Porter, Warren E.** (S'47), 8134 Calumet Dr., Munster, Ind.
- Post, Chester L.** (M'19), Cons. Engr., Federal Works Agency, Public Bldgs. Admin., 19th & F Sts., N.W., Washington 25, D. C.
- Post, Clifford W.** (M'43), Subway Elect. Engr., Dept. of Subways and Superhighways, 20 N. Wacker Dr., 6.
- Potter, C. R.** (A'35;M'43), Chicago Transit Authority, 1165 N. Clark St., 10.
- Potter, W. G.** (M'91), Retired, 500 S. Westmoreland Ave., Los Angeles 5, Calif.
- Prager, Frank D.** (Aff'48), Pres., Puromat Company, 59 E. Van Buren St., 5.
- Pratt, Chas. A.** (M'03), Vice Pres., Goodman Mfg. Co., 4834 S. Halsted St., 9.
- Prell, John S.** (M'98), Retired, 322 W. Mill St., Santa Maria, Calif.
- Prentiss, E. W.** (S'22;J'25-28;M'36), Asst. Engr. of Bridges & Bldgs., Pennsylvania Railroad, Union Station, 6.
- Preschern, W. G.** (M'48), Engr. No. 1, Commonwealth Edison Co., 72 W. Adams St., 90.
- Prince, Harry C.** (A'48), Jr. Designer, American Bridge Company, 208 S. LaSalle St., 41.
- Pringle, Chester L.** (Jr'44;A'46), Commu. Engr., Motorola Inc., 4545 Augusta Blvd., 51.
- Pruess, Earl H.** (A'28;M'37), Market & Devel. Engr., Illinois Bell Telephone Co., 230 W. Washington, 6.
- Pugh, Clyde S. C.** (S'47), 5253 S. Natoma Ave., 38.
- Pugh, Emerson** (M'36), Elect. Engr., Western Electric Co., Hawthorne Works, 23.
- Purcell, Theodore V.** (M'28), Retired, 1126 Judson Ave., Evanston, Ill.
- Purdy, Chester A.** (M'28-'43;M'47), 206 N. Grant St., Hinsdale, Ill.
- Purvis, Adrian A.** (J'25;A'30;M'47), Regional Mgr., Const. Dept., Johnsonville Corp., Merchandise Mart Plaza, 54.
- Purzycki, T. C.** (S'49), 3274 Wrightwood Ave., 47.
- PUTNAM, Rufus W.** (M'22) (Past President), Cons. Engr., 1206 Maple Ave., Los Angeles 15, Calif.
- Putnam, Wilton E.** (A'48), Foreman, Commonwealth Edison Co., 214 Sangamon Ave., 7.
- Querl, Paul E.** (M'46), Mgr., Ind. Devel. Dept., Chicago Association of Commerce and Industry, 1 N. LaSalle St., 2.
- Quilty, T. Frank** (J'37;A'42), Pres., Quilty Engineering Co., 18 S. Loomis St., Naperville, Ill.
- Quinlan, George A.** (M'19), Supt., Dept. of Highways, Cook County, 160 N. LaSalle St., 1.
- Quinn, Horace A.** (M'46), 335 - 28th St., Ogden, Utah.
- Racheff, Theodore N.** (M'47), Field Engr., Line Design, Commonwealth Edison Co., 72 W. Adams St., 90.
- Raider, George K.** (A'46), Mgr., Multi-Vent Div., Pyle-National Co., 1367 W. 37th St., 9.
- Raisch, C. F.** (M'48), Engrg. Cons., Stewart-Warner Corp., 1826 Diversey Ave., 14.
- Rakosnik, Frank E.** (A'46), Prod. Designer, Hannifin Corporation, 1101 S. Kilbourn Ave., 24.
- Ramey, Horace P.** (M'19), Asst. Ch. Engr., Sanitary District of Chicago, 910 S. Michigan Ave., 5.
- Ramusack, Joseph** (A'48), Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Randall, Edwin A.** (M'28-'33;45), Filtration Design Engr., City of Chicago, 220 S. State St., 3.
- Randall, Frank A.** (J'05;A'12;M'21), Partner, Frank A. Randall & Sons, 205 W. Wacker Dr., 6.
- Randall, Frank A., Jr.** (M'48), Struct. Engr. (Partner), Frank A. Randall & Sons, 205 W. Wacker Dr., 6.
- Randlett, Fred M.** (M'38), Vice Pres. & Gen. Mgr., Robert W. Hunt Co., 175 W. Jackson Blvd., 4.
- Randolph, Robert Isham** (J'02;M'09), Retired, El Roblar Hotel, Ojai, Calif.
- Rasmus, Walter E.** (A'25-'35;M'40), Engr., of Design, Dept. of Subways & Superhighways, 20 N. Wacker Dr., 6.
- Rasmussen, Frank** (M'10), Cons. Engr., Link-Belt Co., 300 W. Pershing Rd., 9.
- Rasmussen, R. J.** (A'31;M'47), Struct. Designer, Vern E. Alden Co., 120 S. LaSalle St., 3.
- Reace, Wm. T.** (M'48), Vice Pres., Commonwealth Edison Co., 72 W. Adams St., 90.
- Read, Roy P.** (M'36), Vice Pres., R. C. Wieboldt Co., 2353 Blue Island Ave., 8.
- Rebori, Andrew P.** (A'46), 9 S. Clinton St., 6.
- Redderson, Ernest W.** (M'28), Engr., Link-Belt Co., 2410 W. 18th St., 8.
- Redmond, W. A.** (A'36), Address Unknown.
- Reece, R. H.** (M'32), Instructor, Mech. Engrg. Dept., California State Polytechnic Institute, San Luis Obispo, Calif.
- Reel, Richard H.** (A'46), Sales Engr. & Estimator, Anning-Johnson Co., Inc., 1514 W. Van Buren St., 7.
- Reeves, W. T.** (M'02), 175 W. Jackson Blvd., 4.
- Rehm, Frank J.** (A'48), Supv., Commonwealth Edison Co., 72 W. Adams St., 90.
- Reichard, Lester H.** (J'24;A'29-'33;M'47), Asst. Supt. Shops & Equip., Chicago Transit Authority, 79 W. Monroe St., 3.
- Reichle, F. G.** (M'45), Cons. Supt. of Engrg., Swift & Company, 800 Fourth Ave., N., Nashville, Tenn.
- REICHMANN, Albert** (M'97;Hon.M'45) (Past President), Retired, 600 Central Ave., Wilmette, Ill.
- Reilly, Lawrence E.** (J'48), Engrg. Sales, Detroit Steel Products Co., 840 N. Michigan Ave., 11.
- Reisse, Donald H.** (A'48), Battery & Childs, 231 S. LaSalle St., 4.
- Reiter, Edward L.** (M'46), Sr. Asst. Subway Engr., Dept. of Subways & Superhighways, 20 N. Wacker Dr., 6.
- Rempert, Harold E.** (A'48), Maint. Insptr., Western Union Telegraph Co., 1029 W. Adams St., 7.
- Renken, Rudolf** (A'43;M'47), Engr., R. Renken & Co., 407 S. Dearborn St., 5.
- Reske, Elmer F.** (M'46), Mgr., Cook County Inspection Bureau, 175 W. Jackson Blvd., 4.
- Rettaliata, J. T.** (M'48), Dean of Engrg., Illinois Institute of Technology, 3300 S. Federal St., 16.
- Reutter, Carl J.** (M'47), Asst. Vice Pres., W. A. Alexander & Co., 135 S. LaSalle St., 3.
- Reynolds, Edward T.** (A'48), Div. Plant Supv., Illinois Bell Telephone Co., 6317 Maryland Ave., 37.
- Reynolds, I. L.** (M'19), Asst. Devel. Contract Admin. Of., Supervising Inspector of Naval Material, 226 W. Jackson Blvd., 6.
- Reynolds, R. F.** (J'30;A'35), Address Unknown.
- Rhoades, Dwight R.** (J'46), Sales, Graver Tank & Mfg. Co., 4809 Tod St., East Chicago, Ind.
- Rian, L. Nordlow** (M'46), 7638 Keeler Ave., Skokie, Ill.
- Rice, Ivan S.** (M'40), 72 W. Adams St., 90.
- Rice, James W.** (A'45), Mech. Engr., Western Electric Co., Inc., Hawthorne Works, 23.
- Rice, Ralph H.** (M'10), Retired, 1007 Thirteenth St., Wilmette, Ill.
- Ricefield, Louis** (M'29), Advisory Engr., 415 Forest Ave., Oak Park, Ill.

INDUSTRIAL COMMERCIAL INSTITUTIONAL RESIDENTIAL

E. L. ARCHIBALD CO.

EST. 1916

GENERAL CONTRACTORS

Alterations - Additions

19 W. MONROE ST., CHICAGO 3, ILL.

FR anklin 2-0274

24 Hour Telephone Service

**INDUSTRIAL
DESIGNING
ENGINEERS
ASSOCIATED**

**PLANT EFFICIENCY
MATERIAL HANDLING
DESIGN, CONSULTATION**

53 W. Jackson Blvd., Chicago, Ill.

Richards, Norman J. (A'19;M'22), Div. Elect. Foreman, Public Service Company of Northern Illinois, Jackson & Ottawa Sts., Joliet, Ill.

Richardson, B. R. (M'48), Elect. Supt., Western United Gas & Electric Co., 50 Fox St., Aurora, Ill.

Richardson, Charles J. (M'48), Architects Supt., Albert Kahn Assoc. Archts. & Engrs., Inc., 1300 Falahee Rd., Jackson, Mich.

Richart, Frank E. (M'36), Research Prof., Engrg. Mat'ls., University of Illinois, Talbot Laboratory, Urbana, Ill.

Richter, Harry P. (S'30;J'32-'38;A'39;M'46), Asst. Mgr. of Real Estate, Carnegie-Illinois Steel Corp., Carnegie Bldg., Pittsburgh 30, Pa.

Richter, Paul O. (M'44), Mgr., Filtration Div., The Eimco Corporation, 3319 S. Wallace St., 16.

Riggen, Theodore K. (M'46), Gen. Mgr., Elmira Electronics Corp., Box 1031, Elmira, N. Y.

Riggen, Winifred (Aff'41;A'46), Illinois Bell Telephone Co., 212 W. Washington St., 6.

Riihimaa, Wm. A. (M'48), Dexter Sulphite Pulp & Paper Co., Dexter, N. Y.

Riley, Maynard H. (M'20), Retired, 525 Orchard Lane, Winnetka, Ill.

Ripley, Herbert S. (M'19), 910 S. Michigan Ave., 5.

Ritchie, James F. (M'47), Field Engr., DeLeuw, Cather & Co., 150 N. Wacker Dr., 6.

Ritter, Albert S. (M'43), Asst. Ch. Draftsman, Commonwealth Edison Co., 72 W. Adams St., 90.

Rivenes, A. I. (M'39), Gen. Results Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.

Roasa, Hubert L. (A'47), Supv. Attended Substations, Commonwealth Edison Co., 72 W. Adams St., 90.

Roberts, John K. D. (A'48), Tele. Traf. Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.

Roberts, John M. (J'46), Equip. Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.

Roberts, Thomas D. (S'28-'30;A'37), Asst. Mgr., Urad Mine, Molybdenum Corporation of America, Empire, Colo.

Robertson, Daniel C. (M'40), Gen. Plant Personnel Supv., Illinois Bell Telephone Co., 208 W. Washington St., 6.

Robinson, George G. (M'48), Gen. Traf. Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.

Robinson, Thomas G. (M'47), Pres., Meters & Controls, Inc., 236 N. Clark St., 1.

Robson, Carl D. (M'30), Retired, 2062 Pine Crest Dr., Altadena, Calif.

Roche, John P. (M'48), Ch. Struct. Engr., Naess & Murphy, 80 E. Jackson Blvd., 4.

Rocke, Gilbert (A'43), 7015 Woodlawn Ave., 37.

Rockwell, Matthew L. (J'42;A'46), Partner, Stanton & Rockwell, 222 W. Adams St., 6.

Roepke, Walter (M'36), Owner, The Heinze Surveyors, 612 W. Belden Ave., 14.

Rogers, Charles G. (M'45), Prof. Engr., 4920 Schubert Ave., 39.

Rogers, Donald E. (J'48), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.

Rogers, Edgar (J'29-'31;M'48), Staff Engr., Public Service Company of Northern Illinois, 72 W. Adams St., 3.

Rogers, Fred A. (M'04-'11;'23), Retired, 320 Wisconsin Ave., Oak Park, Ill.

Rogers, Lester C. (M'36), Pres., Bates & Rogers Construction Corp., 600 W. Jackson Blvd., 6.

Rogers, Paul (A'42), Struct. Engr., Ralph H. Burke, 20 N. Wacker Dr., 6.

Rohrdanz, Edwin C. (S'20;J'23;A'28), 12925 Greenwood Blue Island, Ill.

Ronningen, Helmer A. (M'40), Sr. Partner, Ronningen Engineering Sales, Vicksburg, Mich.

Root, John W. (M'47), Sr. Partner, Holabird & Root & Burgee, 180 N. Wabash Ave., 1.

Roper, Denney W. (M'05), Retired, Box 1345, Carmel, Calif.

Rose, Edmund G. (A'35;M'47), Circuit Planning Engr., Commonwealth Edison Co., 72 W. Adams St., 90.

Rose, Wm. E. (A'36;M'46), 331 N. Waiola Ave., LaGrange Park, Ill.

Rosen, Norman A. (A'48), Sales Engr., Midwest Heat Service, 3336 W. Franklin Blvd., 12.

Rosenthal, Fred S. (M'46), Elect. Engr., Pioneer Service & Engineering Co., 231 S. LaSalle St., 4.

Rosing, Anton S. (M'25-'34;'43), Photogrammetric Engr., U. S. Air Force, Wright Field, Dayton, Ohio.

Ross, George B. (A'46), Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.

Ross, Herman M. (S'36;J'38;A'46), Sales Engr., Graver Tank & Mfg. Co., 332 S. Michigan Ave., 4.

Ross, Ralph H. (M'46), Area Plant Mgr., American Telephone & Telegraph Co., 20 N. Wacker Dr., 6.

Ross, William J. (M'47), Ch. Engr., L. C. Smith Industrial Engineering Co., 2835 N. Lincoln Ave., 13.

BATES - GRATES

OPEN STEEL FLOORING

EXTRA STRENGTH—Large, smooth fillet developed by low temperature pressure welding of Hex Cross Bar to main bar.

EXTRA SAFETY — Crisp, dirt-and-grease-shedding nonslip tread produced by ridge of Hex Cross Bar.

WALTER BATES COMPANY, INC.

Joliet, ILLINOIS

OPEN STEEL FLOORING
AND STAIR TREADS

Albert H. Wetten & Co.

141 West Jackson Boulevard

Telephone WA bash 2-3630

Commercial Real Estate

MEMBERSHIP

- Rossate, Jack S.** (A'44), Wyman-Gordon Co., Harvey, Ill.
- Rossen, John** (A'20;M'47), Struct. Engr., Rossen, Evans & Rossen, 173 W. Madison St., 2.
- Rossi, Charles V.** (A'46), Sales Mgr., Indus. Div., Lukko Sales Corp., 5024 Irving Pk., 41.
- Rossiter, Glenn A.** (M'46), Squad Leader, American Bridge Co., Gary, Ind.
- Rossmann, A. M.** (M'19), 109 N. Dearborn St., 2.
- Roth, Edward F.** (M'48), Div. Gas Sales Mgr., Public Service Company of Northern Illinois, 1001 S. Taylor Ave., Oak Park, Ill.
- Roth, Edward N.** (A'11;M'22), Sec'y., Ace Foundry Co., 353 N. Lamon Ave., 44.
- Ruble, Emerson J.** (M'46), Struct. Engr., Association of American Railroads, 59 E. Van Buren St., 5.
- Ruchti, Graham** (M'47), Draftsman, American Bridge Co., Gary, Ind.
- Ruddock, Raymond** (A'48), Sales Engr., Partner, Beverly & Ruddock, 7001 N. Clark St., 26.
- Ruggles, Leonard L.** (M'35), Ch. Sales Engr., Automatic Electric Sales Corp., 1033 W. Van Buren St., 7.
- Ruggles, W. S. Jr.** (M'46), Engr. of Design, C-S Engineering Co., 322 1/2 E. Adams St., Springfield, Ill.
- Ruhl, David A.** (M'45), Sales Engr., Timber Structures, Inc., 120 S. LaSalle St., 3.
- Rumeley, Richard L.** (A'31-'32;'36-'37; M'46), Engr. 1—Mat'ls., Commonwealth Edison Co., 2233 S. Throop St., 8.
- Runde, Edgar** (M'47), Engr., Struct. Design, Commonwealth Edison Co., 72 W. Adams St., 90.
- Rupp, Earl V.** (M'49), Mgr., Engrg. & Patent Depts., The Bastian-Blessing Company, 4201 W. Peterson Ave., 30.
- Rusch, Erwin G.** (M'46), Engr., De Leuw, Cather & Co., 150 N. Wacker Dr., 6.
- Rushton, J. Henry**, Dir. Dept. of Chem. Engrg., Illinois Institute of Technology, 3300 Federal St., 16.
- Russell, James D.** (M'44), Mech. Engr., Rust. Engrg. Co., Birmingham, Ala.
- Rutherford, Marvin H.** (M'44), Plant & Equip. Engr., Chicago Transformer Div., Essex Wire Corp., Ceramic Ave., Zanesville, Ohio.
- Rutter, Joseph R.** (A'48), Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Ruzick, John L.** (M'46), Div. Supt., Track, Chicago Transit Authority, 625 S. Western Ave., 12.
- Ryan, Eugene A.** (M'48), Commonwealth Edison Co., 72 W. Adams St., 90.
- Safarik, Edgar R.** (J'25;A'28;M'39), Ch. of Inspection, Leich Electric Co., Genoa, Ill.
- St. Germain, Allen E.** (A'48), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- St. Pierre, Lowell C.** (A'48), Asst. Supt. of Power, West Zone, Public Service Company of Northern Illinois, 423 Childs St., Wheaton, Ill.
- Sale, Frank A.** (S'36;J'37;A'43), Gen. Supv., Water Treating Dept., Graver Tank & Mfg. Co., 4809 Tod Ave., East Chicago, Ind.
- Salerno, Paul G.** (A'47), Ch. Designer, Woodruff & Edwards, Inc., 119 N. State St., Elgin, Ill.
- Salle, W. H.** (A'40;M'48), Supv. Engr., Commonwealth Edison Co., 72 W. Adams St., 90.
- Salzman, A. L.** (M'20-'29;'44), A. L. Salzman & Sons, Inc., 188 W. Randolph St., 1.
- Salzman, Max M.** (M'44), Herman & Salzman, 53 W. Jackson Blvd., 4.
- Salzman, W. B.** (A'47), Mech. Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Sammons, F. D., Jr.** (S'48), 1752 W. Garfield Blvd., 9.
- Sampson, Alexander E.** (A'44), Asst. Buyer, Standard Oil Co. (Ind.), 910 S. Michigan Ave., 80.
- Sampson, Roy E.** (J'47), Draftsman, Pullman Standard Car Mfg. Co., 10927 S. Cottage Grove Ave., 28.
- Sanda, Laddie A.** (A'48), Design Engr., Soreng Manufacturing Corp., 1901 N. Clybourn, 14.
- Sandeen, Ralph A.** (M'48), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Sanden, T. E.** (M'44), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Sandham, R. D.** (M'28), Asst. Harbor Engr., Port of Long Beach, 1333 El Embarcadero, Long Beach 2, Calif.
- Sandman, Joseph J.** (A'20;M'47), Designer, American Bridge Co., 208 S. LaSalle St., 4.
- Sanford, Frank E.** (M'47), Dir. of Research, Copper Wire Engineering Association, 20 N. Wacker Dr., 6.
- Sanow, Nathan L.** (M'40), Struct. Engr., Pioneer Service & Engineering Co., 231 S. LaSalle St., 4.
- Santina, William J.** (J'34;A'38), Sr. Civil Engr., Asst. Ch. of Engrg. Br., U. S. Engineer Office, 222 W. North Bank Dr., 54.
- Sargent, Ralph** (M'28), Partner, Sargent & Lundy, 140 S. Dearborn St., 3.
- Sarney, Richard A.** (M'43), Retired, 926 Pueblo Solano Dr., Albuquerque, N. M.
- Sass, M. E.** (A'43), 6241 N. Winthrop Ave., 40.
- Sauerman, John A.** (J'10;M'18), Pres., Sauerman Bros., Inc., 522 S. Clinton St., 7.
- Sauermann, Otto** (M'30), 2032 West 103rd St., 43.
- Saunders, Norman H.** (A'34-'36;M'46), Engrg. Mgr., Kellogg Switchboard & Supply Co., 6650 S. Cicero Ave., 38.
- Savage, Herbert** (A'48), Engr., Commonwealth Edison Co., 72 W. Adams St., 90.
- Sawyer, Percy** (M'08-'10;'45), 334 Dickens 14.
- Sayers, Robert P.** (A'35-'39;M'46), Design & Sales Engr., Nelson L. Davis Co., 343 S. Dearborn St., 4.
- Scaar, Harry** (M'48), Pres., Scaar Iron Works, Inc., 1042 W. 11th St., 7.
- Schad, Eugene F.** (J'27;A'35), Sales Engr., Broderick & Bascom Rope Co., 4203 N. Union Blvd., St. Louis 15, Mo.
- Schad, James A.** (M'41), Engr., American Iron & Steel Institute, 350 Fifth Ave., New York 1, N. Y.
- Schaefer, James W.** (J'27;A'29-'36; M'47), Supv. Field Engr. - Struct., Commonwealth Edison Co., 72 W. Adams St., 90.
- Schafmayer, A. J.** (J'07;A'14;M'23), Asst. Ch. Engr. of Sewers, Bureau of Sewers, City Hall, 2.
- Schaibly, Harold M.** (M'41), Start. Engr., Sr. Grd., Commonwealth Edison Co., 2233 S. Throop St., 8.
- Schaller, W. F.** (M'23), Pres., Marquette Electric Switchboard Co., 311 N. Desplaines St., 6.
- Schaub, J. Benton** (S'13;J'15;A'18; M'24), Asst. Engr. of Bldgs., Illinois Central Railroad, 135 E. 11th St., 5.
- Scheerens, Joseph J.** (A'48), Estimator-Engr., McCarty Brothers, Inc., 1846 W. Washington St., 12.
- Schieneman, F. W.** (J'23;A'26-'37; Member'48), Asst. Ch. Engr., Mfg. Dept., Standard Oil Co. (Ind.), 910 S. Michigan Ave., 5.
- Schermerhorn, E. B.** (A'44), Sr. Engr., Illinois Bell Telephone Co., 6317 S. Maryland Ave., 37.
- Schewe, Louis C.** (A'45), Equip. Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.
- Schiffer, Joseph A.** (M'47), Supv., Commonwealth Edison Co., 2233 S. Throop St., 8.
- Schilling, Henry** (A'27;M'37), P. O. Box 82, Rensselaer, N. Y.
- Schipper, Richard C.** (M'48), Tech. Rep., Insurance Co. of North America, 231 S. LaSalle St., 4.
- Schirmer, Robert W.** (M'46), Vice Pres. & Ch. Engr., Hendricks Engineering Corp., 6544 Sheridan Rd., 26.
- Schlah, William F.** (S'37;J'38;A'46), Design Engr., Industrial Equipment Co., 315 N. Ada St., 7.
- Schlesinger, Max** (M'28-'34;'44), Supv. Engr., Amsler Morton Corp., Chamber of Commerce Bldg., Pittsburgh, Pa.
- Schless, J. T.** (A'20;M'28), Pres., The Schless Construction Co., Inc., 709 Rogers St., Downers Grove, Ill.
- Schlinz, Herman W.** (M'34), Vern E. Alden Co., 120 S. LaSalle St., 3.
- Schlosser, Vernon I.** (S'47), 4654 Elston Ave., 30.
- Schmaus, Richard H.** (J'48), Electronics Tech., Burgess-Manning Company, 749 E. Park Ave., Libertyville, Ill.

For Technical Books of All Publishers

NEW AND USED

ECONOMY BOOK STORE

40 SOUTH CLARK STREET

DEarborn 2-3366

Open Every Evening Until 11:00 P.M.

EUGENE MITTELMANN

E. E., Ph. D.

Consulting Engineer and Physicist

High Frequency Heating
Industrial Electronics

Applied Physics and Mathematics

549 W. Washington Blvd., Chicago 6

STate 2-8021

- Schmidt, Casper N.** (Aff'48), Asst. Factory Mgr., Ahlberg Bearing Co., 3025 W. 47th St., 32.
- Schmidt, Edmund R.** (A'48), Engr., Illinois Bell Telephone Co., 131 N. Franklin St., 6.
- Schmidt, Edward F., Jr.** (A'41), Power Std's Engr., Western Electric Co., Inc., Hawthorne Works, 23.
- Schmidt, Norman E.** (A'36-'40; A'43; M'47), Deputy Bldg. Comm., City of Evanston, Municipal Bldg., Evanston, Ill.
- Schmidt, Paul O.** (A'48), Engr., Illinois Bell Telephone Co., 1025 Sunnyside, 40.
- Schmidt, Ralph G.** (M'48), Commonwealth Edison Co., 72 W. Adams St., 90.
- Schmidt, Robert B.** (A'46), Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.
- Schmitz, Carl Edward** (M'45), Vice Pres., Dir. of Engrg., Crane Packing Company, 1800 Cuyler Ave., 13.
- Schnadt, Arthur H.** (A'46), Sr. Engr., Illinois Bell Telephone Co., 215 W. Randolph St., 6.
- Schneider, Philip W.** (S'48), 3706 N. Southport Ave., 13.
- Schnetzler, Edward G.** (Aff'48; A'48), Div. Staff Supv., Illinois Bell Telephone Co., 5643 N. Broadway, 40.
- Schofield, Wilfred C.** (A'23; M'31), Asst. Ch. Engr., Freyn Engineering Co., 109 N. Wabash Ave., 2.
- Schoonover, Howard D.** (A'48), Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.
- Schrader, Herbert E.** (M'36), Link-Belt Co., 2410 W. 18th St., 8.
- Schreiner, John E.** (S'34; J'35; A'41), Field Supt., Great Lakes Dredge & Dock Co., P. O. Box 821, Thief River Falls, Minn.
- Schroeder, Bernard A.** (M'33), Partner, Patent Lawyers, Schroeder, Merriam, Hofgren & Brady, 20 N. Wacker Dr., 6.
- Schroeder, Bernhard** (J'09; A'12; M'37), Retired, Route No. 1, Box 246, Grays Lake, Ill.
- Schroeder, Henry C.** (A'38; M'47), Partner, Sargent & Lundy, 140 S. Dearborn St., 3.
- Schroeder, Serva** (M'47), Eagle Picher Co., 420 E. 151st St., East Chicago, Ind.
- Schuber, Joseph L.** (M'48), Commonwealth Edison Co., 72 W. Adams St., 90.
- Schubert, A. J.** (S'48), 6711 N. Washtenaw Ave., 45.
- Schuler, Reginald G.** (A'36; M'47), Inventor, Victor Adding Machine Co., 3900 N. Rockwell St., 18.
- Schultz, Roy M.** (M'13), 1438 Cullom Ave., 13.
- Schulze, Franz** (M'44), Cons. Engr., Industrial Designing Engineers, Associated, 53 W. Jackson Blvd., 4.
- Schurger, David L.** (A'46), Pres., The Ron-Del Co., Box 69, Bastrop, Texas.
- Schutte, Leo H.** (M'47), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Schwalm, Harold E.** (M'48), Supt. Gas Supply, Public Service Company of Northern Illinois, 1001 S. Taylor St., Oak Park, Ill.
- Schweitzer, Arthur R.** (M'32), Research Mathematician, 452 Oakdale Ave., 14.
- Schweitzer, Edmund O.** (M'19), Elect. Engr., 1241 Waukegan Rd., Northbrook, Ill.
- Schweitzer, William E.** (M'45), Wm. E. Schweitzer & Co., 2207 Dodge Ave., Evanston, Ill.
- Scott, Robert G.** (M'37), Ch. Engr., Clay Products Association, 100 N. LaSalle St., 2.
- Scott, W. Kenneth** (S'44; J'46), Mech. Engr., National Advisory Committee for Aeronautics, Langley Field, Hampton, Va.
- Seaberg, Robert S.** (S'42; J'46), Office Engr., Materials Service Corp., 901 N. Sangamon, 22.
- Seaman, Richard P.** (A'48), Elect. Engr., Commonwealth Edison Co., 72 W. Adams St., 90.
- Seamon, Benjamin E.** (M'43), Pres., Westland Engineering Supply Co., 53 W. Jackson Blvd., 4.
- Seaton, George L.** (A'28; M'37), Gen. Mgr., Chicago Area, Illinois Bell Telephone Co., 212 W. Washington St., 6.
- Sedgwick, Frederick W.** (Aff'40), Supv. Engr., Washington Properties, Inc., 2600 Woodley Rd., N. W., Washington, D. C.
- SEDWICK, H. P.** (A'23) (Second Vice President), Vice Pres., Public Service Company of Northern Illinois, 72 W. Adams St., 3.
- Seely, Ray** (A'12; M'22), Civil Engr., 12 Elizabeth St., Hammond, Ind.
- Seibt, William J.** (A'45), Dial Equip. Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Seidensticker, F. W.** (M'20-'33; '43), Struct. Engr., Childs & Smith, Architects, 20 N. Wacker Dr., 6.
- Selander, K. W.** (A'40), Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Semaitis, Albert J.** (S'44; Jr.'46), Sr. Draftsman, Clearing Machine Corp., 6499 W. 65th St., 38.
- Sener, Charles J.** (J'48), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Serat, George W.** (A'32-'36; M'41), American Bridge Co., 208 S. LaSalle St., 4.
- Seth, George W.** (M'28), Struct. Engr., Holabird & Root & Burgee, 180 N. Wabash Ave., 1.
- Severson, Norman** (A'29-'35; '38), 220 S. Sterling St., Streator, Ill.
- Sevin, Eugene** (S'48), 601 Keith Ave., Waukegan, Ill.
- Seymour, Charles W.** (M'36), Asst. Proj. Engr., Chicago Subways, Federal Works Agency, 20 N. Wacker Dr., 6.
- Shanklin, R. J.** (M'48), Asst. Supt. of Bldgs., Chicago Transit Authority, 1165 N. Clark St., 10.
- Shapiro, Benj. B.** (A'17; M'20-'23; '28-'34; '42), Cons. Engr., 162 E. Ohio St., 11.
- Shaver, A. G.** (M'20), Cons. Engr., Ry. Signaling & Commu., 434 N. Hazel St., Danville, Ill.
- Shaw, Frederick W.** (A'20), 327 S. LaSalle St., 4.
- Shaw, Howard D.** (J'26; A'28; M'39), Mgr., Ida B. Wells Homes, Chicago Housing Authority, 454 E. Pershing Rd., 15.
- Shaw, Walter A.** (M'00), Retired, 922 Oakwood Ave., Wilmette, Ill.
- Sheehan, Edward D.** (M'47), Mgr., Gas Operations, Public Service Company of Northern Illinois, 72 W. Adams St., 3.
- Sherman, LeRoy K.** (M'95), 1143 Clarence Ave., Oak Park, Ill.
- Sherman, Thomas N.** (Aff'30-'32; M'47), Bldg. Engr., Public Service Company of Northern Illinois, 1701 First Ave., Maywood, Ill.
- Sheviak, Frank G.** (S'38; J'39; A'47), Capt., Ch., Radio Br., Hq. Fifth Army, 1660 E. Hyde Park Blvd., 15.
- Shipman, William D.** (A'25-'28; M'30-'32; '48), Macdonald Engineering Co., 188 W. Randolph St., 1.
- Shortess, Edwin S., Jr.** (S'41; J'43), Ch. Engr., Burlington Instrument Co., 214 N. Fourth St., Burlington, Ia.
- Showtis, Bruno M.** (Aff'48), Time Study Engr., Harrison Sheet Metal Co., 4718 W. 5th Ave., 44.
- Shuma, William F.** (M'48), Ch. Draftsman, Friedman, Alschuler & Sincere, 223 W. Jackson Blvd., 6.
- Shuman, Alton B.** (A'36; M'47), Com. Engr., Illinois Bell Telephone Co., 230 W. Washington St., 6.
- Shuman, E. C.** (J'27; A'31; M'39), Dir. Research, American Structural Products Co., P. O. Drawer F, Berlin, N. J.
- Shumway, Noble C.** (M'41), Elect. Engr., Asst. Engr. in Chg. N. Y. Office, Federal Communications Commission, 90 Church St., New York 7, N. Y.
- Shybekay, Derso S.** (M'44), Pres., Industrial Research Council of America, 703 Third Ave., S., Minneapolis 2, Minn.
- Sidney, Edward J.** (A'47), Sales Engr., Fenner & Potvin, 549 W. Randolph St., 6.
- Sielski, Matthew C.** (A'47), Dir., Safety & Traf. Engrg. Dept., Chicago Motor Club, 66 E. South Water St., 1.
- Siewert, Daniel R.** (M'42), 849 S. Clinton St., 7.
- Siewerth, Arthur E.** (Aff'48), Arthur G. Siewerth Sons, 6445 N. Artesian Ave., 45.
- Sikes, Alfred W.** (M'31), 212 N. Hamilton Ave., 24.
- Silla, Mario R.** (S'42; J'43), Proj. Engr., Standard Oil Co. (Ind.), 910 S. Michigan Ave., 80.
- Sillcox, Lewis K.** (M'21), First Vice Pres., The New York Air Brake Co., Starbuck Ave., Watertown, N. Y.
- Simans, Irwin W.** (Aff'47), Ch. Instructor, Industrial Training Institute, 2150 Lawrence Ave., 25.
- Simon, Louis I.** (M'18-'24; '41), Arch. Engr., 179 W. Washington St., 2.
- Simons, Howard A.** (M'39), Cons. Engr., Bloedel, Stewart & Welch, Ltd., 16 E. Hastings St., Vancouver, B. C.

DECKERT CORPORATION

ENGINEERS CONTRACTORS

RAILROAD AND INDUSTRIAL TRACKS
CONCRETE-BRIDGE AND TRESTLE
CONSTRUCTION

53 West Jackson Blvd. Chicago 4

WA bash 2-1774-1775

Telephone HY de Park 3-4910

SOUTH SIDE CONSOLIDATED EMPLOYMENT AGENCY

Specialized Technical and
Engineering Department

1105 E. 63rd STREET

CHICAGO

O. B. SMITH
Professional Engineer

MEMBERSHIP

Simpson, Arthur R. (A'42), Contr. Engr., Chicago Bridge & Iron Co., 322 S. Michigan Ave., 4.

Simpson, Earl B. (A'24;M'48), Retired, Route 1, Box 905, LaMesa, Calif.

Simpson, George N. (M'20-'34;'45), Supt., United Conveyor Corp., 37 W. Van Buren St., 5.

Simpson, John R. (A'35), Elect. Engr., Bueter & Wolff, Inc., 37 S. Wabash Ave., 3.

Simpson, Ralph H. (M'20), Pres., Ralph H. Simpson Co., 1680 N. Ada St., 22.

Sipp, Thurman L. (A'47), Elect. Engr., C. P. Clare & Co., 4719 W. Sunnyside Ave., 30.

Skillman, John E. (A'45), Supt. & Engr., Maxon Construction Co., Inc., 922 Federal Ave., Morgan City, Ia.

Skinner, Sylvan J. (M'46), Engr., Bureau of Reclamation, Denver Federal Center, Denver, Colo.

Skog, Ludwig (M'26), Sr. Partner, Sargent & Lundy, 140 S. Dearborn St., 3.

Skyllingstad, Dale E. (A'47), The Kerite Company, 122 S. Michigan Ave., 3.

Slack, William E. (J'48), Jr. Elect. Engr., Commonwealth Edison Co., 2233 S. Throop St., 8.

Slivinski, LeRoy F. (J'47), Asst. Mech. Engr., D. A. Stuart Oil Co., 2727 S. Troy St., 23.

Sloan, William G. (J'99;M'02), Cons. Engr., Province Line Road, Princeton, N. J.

Slocum, Harold H. (M'48), Engr., Commonwealth Edison Co., 72 W. Adams St., 90.

Slomka, Joseph J. (A'48), Methods Engr., Western Electric Co., Inc., 2511 W. 23rd St., 8.

Slygh, Edward J. (J'30;A'35;M'43), Engr., Campbell-Lowrie-Lautermilch Corp., 400 W. Madison St., 6.

Smeby, Rudolph P. (M'47), Supv. Engr., Commonwealth Edison Co., 72 W. Adams St., 90.

Smedley, Glenn B. (M'48), Sr. Engr., Commonwealth Edison Co., 72 W. Adams St., 90.

Smetters, Samuel T. (M'09), 1550 E. 61st St., 37.

Smith, Arthur B. (M'20), Vice Pres., Automatic Electric Laboratories, Inc., 1033 W. Van Buren St., 7.

Smith, Austin W. (S'41;J'41;A'45), Struct. Draftsman, Mississippi Valley Structural Steel Co., 25th & Norwood Sts., Melrose Park, Ill.

Smith, C. G. (M'44), Asst. Div. Traf. Engr., Western Union Telegraph Co., 427 S. LaSalle St., 5.

Smith, Dwight L. (M'27), Gen. Mgr., Chicago, North Shore & Milwaukee Ry. Co., Highland, Ill.

Smith, Earl J. (M'43), Retired, 208 Woodbine Ave., Wilmette, Ill.

Smith, Edward R. (M'47), Staff Asst., Commonwealth Edison Co., 72 W. Adams St., 90.

Smith, Frederick C. (M'47), Fire Prot. Engr., Marsh & McLennan, Inc., 231 S. LaSalle St., 4.

Smith, Gilbert M. (M'42), Ch. Petroleum Engr., Air Transport Command, AAF No. 1, Washington 25, D. C.

Smith, Guy E. (S'27;A'29), 264 Gerard St., E., Toronto, Canada.

Smith, Harold E. (M'40), Distribu. Planning Engr., Commonwealth Edison Co., 72 W. Adams St., 90.

Smith, H. K. (M'34), Northwestern Engrg. & Serv. Mgr., Westinghouse Electric Corp., 20 N. Wacker Dr., 6.

Smith, John R. (M'45), Dist. Mgr., Sor-gel Electric Co., 8 S. Dearborn St., 3.

Smith, Kilburn M. (A'28-'35;M'46), Asst. System Planning Engr., Commonwealth Edison Co., 72 W. Adams St., 90.

Smith, Monroe A. (M'29), Acoust. Engr., United States Gypsum Co., 300 W. Adams St., 6.

Smith, O. G. (M'35), Equip. & Bldg. Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.

Smith, Osborne B. (M'47), Prop., Osborne B. Smith & Co., 1105 E. 63rd St., 37.

Smith, R. C. (J'99;M'02), Mile 5 at 9 1/4, Weslaco, Texas.

Smith, Vincent B. (M'46), Assoc. Editor, Engineering News-Record, National Press Bldg., Washington 4, D. C.

Smith, Walter E. (M'46), Ch. Engr., Central Steel & Wire Co., 3000 W. 51st St., 80.

Smith, Walter M. (M'26), Retired, Glenn Springs, S. C.

Smythe, Edwin H. (M'07), 1162 Monadnock Bldg., 4.

Snepp, Karl M. (M'46), Squad Leader, American Bridge Co., Gary, Ind.

Snook, Wilbur L. (M'26-'43;'48), Supt., Gas Prod., Public Service Company of Northern Illinois, 1001 S. Taylor Ave., Oak Park, Ill.

Snow, Frank W. (M'28-'35;'48), Sales Rep., Otis Elevator Company, 600 W. Jackson Blvd., 6.

Snowdon, Edward N. (M'37), Assoc. Engr., Underwriters' Laboratories, Inc., 161 Sixth Ave., New York 13.

Snyder, Robert A. (A'48), Engr., Factory Engrg., Western Electric Co., Inc., Hawthorne Works, 23.

Soderholm, A. C. (A'30-'35;'36), Proj. Engr., Vern E. Alden Co., 120 S. LaSalle St., 3.

Sokolowski, John J. (J'44), Automatic Tool Designer, Dole Valve Company, 1923 W. Carroll, 12.

Solheim, Peter J. M. (A'35;M'44), Subway Struct. Designer, Dept. of Subways & Superhighways, 20 N. Wacker Dr., 6.

Sommerfield, Sumner S. (J'37;A'39), Mech. Engr., 1913 E. Indiana St., Wheaton, Ill.

Sonderegger, H. H. (J'28;A'35;M'43), Design Engr., Sauerman Bros., Inc., 522 S. Clinton St., 7.

Soper, Taylor G. (A'45), Exec. Sec'y., Illinois Road Builders Association, 228 N. LaSalle St., 1.

Sorber, Gilbert (M'38), Staff Engr., Automatic Electric Sales Corp., 1033 Van Buren St., 7.

Sothen, Wm. H. (M'47), Staff & Personnel Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.

Spagnola, Leon (J'47), Draftsman, Pullman Standard Car Mfg. Co., 10909 Cottage Grove Ave., 28.

Spalding, F. W., Jr. (M'46), Ch. Engr., Springfield Fire & Marine Insurance Co., 222 W. Adams St., 6.

Spaulding, Robert E. (A'45), Arch'l. Engr., American Can Co., 104 S. Michigan Ave., 3.

Spencer, A. L. (M'48), Office Mgr., S. N. Nielsen Co., 3059 Augusta St., 22.

Spencer, Charles H. (M'44), 5021 Drexel Blvd., 15.

Spencer, Henry C. (M'48), Dir., Tech. Drawing Dept., Illinois Institute of Technology, 3300 Federal St., 16.

Spencer, John P. (M'48), Traf. Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.

Spiegel, Milton (J'29-'35;A'36), Vice Pres. & Gen. Mgr., Chicago Pump Co., 2300 Wolfram, 18.

Spillett, William D. (M'43), Const. & Operat. Engr., William A. Baehr Organization, Inc., 231 S. LaSalle St., 4.

Springbrunn, Gilbert P. (S'38;J'39;A'47), Power Engr., Western Electric Co., Inc., Hawthorne Works, 23.

Springer, George B. (M'90), Retired, 50 S. LaSalle St., 3.

Sproul, Malcolm R. (A'40-'44;M'46), Toll Equip. Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.

Spurling, L. M. (A'26;M'35), Staff & Personnel Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.

Stacy, D. F. (A'38;M'44), Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.

Staley, E. G. (M'36), Mgr., Chicago Of., Henry Vogt Machine Co., 111 W. Monroe St., 3.

Stanbery, J. N. (M'41), Vice Pres., Illinois Bell Telephone Co., 212 W. Washington St., 6.

Stang, Lester R. (M'48), Com. Special Studies Engr., Illinois Bell Telephone Co., 230 W. Washington St., 6.

Stange, Raymond P. (S'48), 2561 N. 73rd St., 35.

Stanley, A. H. (M'47), Asst. Works Mgr., Joslyn Mfg. & Supply Co., 3700 S. Morgan St., 9.

Starbuck, Francis A. (M'46), 538 S. Lewis Ave., Lombard, Ill.

Stark, Frank M. (A'48), 2545 N. Kilbourn Ave., 39.

Starkovich, John F. (M'48), Ch. Elect. Engr., Janette Mfg. Co., 556 W. Monroe St., 6.

Stauss, Raymond O. (A'45), Asst. Supt., Gas Const., Public Service Company of Northern Illinois, 1001 S. Taylor Ave., Oak Park, Ill.

Stedman, Elmore W. (M'20), Sec'y.-Treas., Dahl-Stedman Co., 11 S. La Salle St., 3.

Steen, Harry (J'27-'33;A'37), Asst. Plant Mgr., Hannifin Mfg. Co., 1101 S. Kilbourn Ave., 24.

Steffa, Homer (M'19), Fox Lake, Wis.

STEGER, Donald V. (A'47), Executive Secretary, The Western Society of Engineers, 84 E. Randolph St., 1.

Steinweg, Carl H. (M'46), Civil Engr., Cook County Highway Dept., 10633 Ave. F., 17.

Steitz, Carl G. (A'48), Rolling Engr., Carnegie-Illinois Steel Corp., 3426 E. 89th St., 17.

Steitz, Gustave J. (M'48), Ch. Estimator, Henry Ericsson Company, 228 N. LaSalle St., 1.

Stelter, William L. (S'43;J'44), Ch. Engr., Synchro-Start Products, Inc., 1046 W. Fullerton Ave., 14.

Sterling, Gerhard F. (A'36;M'47), Vice Pres., Peacock Steel Co., 176 W. Adams St., 3.

Stern, Isaac F. (M'04), Cons. Engr., 38 S. Dearborn St., 3.

Sternaman, Roy A. (M'47), Mech. Engr., Delta-Star Electric Co., 2400 W. Fulton St., 12.

Stevens, Chas. J. (A'47), Equip. Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.

Stevens, Gilbert A. (A'49), Plant Engr., American Stove Co., Harvey, Ill.

Stewart, Clinton B. (M'90), Retired, Anchor, Ill.

Stewart, Charles E. (M'45), Civil Engr., 7658 Calumet Ave., 19.

Stewart, James A. (A'40;M'47), Traf. Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.

Stewart, R. J. (A'48), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.

Stickney, A. B. (M'46), Engr., Armour and Company, Union Stock Yards, 9.

Stickney, G. W. (M'16), Retired, 215 S. Washington St., Wheaton, Ill.

Stoler, S. B. (M'46), Pres., Hecker and Co., Inc., 59 W. Marquette Rd., 21.

Stone, Bernard L. (A'47), Signal Draftsman, Illinois Central R. R., 135 E. 11th Pl., 5.

Stone, W. E. (M'46), Sr. Plant Engr., Illinois Bell Telephone Co., 6317 Maryland Ave., 37.

Stoos, Joseph A. (A'28-'35;M'46), Sr. Asst. Subway Designer, Dept. of Subways and Superhighways, 20 N. Wacker Dr., 6.

Storey, Donald G. (A'36), Lt. Comdr., Public Works Officer, Public Works Officer, N.A.A.S., Cecil Field, Jacksonville, Fla.

Stoyanov, Alex (M'29), Owner, Alex Stoyanov Engineers, 833 N. Shaver St., Portland, 12, Ore.

Strait, Edward N. (M'20), Mgr., Rate & Research Div., Pioneer Service & Engineering Co., 231 S. LaSalle St., 4.

Strassen, R. B. (M'28), Elect. Engr., Fries-Walters Co., 2001 W. Pershing Rd., 9.

Strasser, R. J. (M'28), Partner, Sargent & Lundy, 140 S. Dearborn St., 3.

Strate, T. H. (M'20), Retired, 6753 N. Sioux Ave., 30.

Strazz, Anthony J. (J'36;A'42), Struct. Designer, Carr and Wright, Inc., 333 N. Michigan Ave., 1.

Streicher, Irving H. (M'47), Factory Supt., Grand Sheet Metal Works, 2501 W. 24th St., 8.

Stretch, Richard J. (M'36), Pres., Monroe Electric Co., 157 W. Ontario St., 10.

Strickland, W. P., Jr. (A'46), Ch. Mech. Engr., Simpson Optical Mfg. Co., 3200 W. Carroll St., 24.

Strid, Oscar W. (J'36;A'40), Proj. Engr., Foote Bros. Gear & Machine Corp., 4545 S. Western Ave., 9.

Strobeck, Roy A. (M'43), Mgr., Real Est. Dept., Commonwealth Edison Co., 72 W. Adams St., 90.

Stromberg, John A. (A'14;M'22), Struct. Engr., 8 S. Dearborn St., 3.

Stroup, Charles L. (M'45), 5401 W. Roosevelt Rd., 50.

Stuhlfauth, George (M'45), Sec. Hd., Machine Design Dept., Western Electric Co., Inc., Hawthorne Works, 23.

Stump, Robin D. (M'46), Div. Staff Supv., Illinois Bell Telephone Co., 6317 S. Maryland Ave., 37.

Sues, Roy L. (A'43), Ch. Engr., The Spra-Con Company, 1402 N. Western Ave., 22.

Suffka, John L. (A'36), Field Engr., (Cable), Commonwealth Edison Co., 140 S. Dearborn St., 90.

Suhr, Ben H. (M'23), 130 N. Wells St., 6.

Sullivan, John F., Jr. (J'28-'31;M'47), Asst. to Vice Pres., Commonwealth Edison Co., 72 W. Adams St., 90.

Supple, Leo E. (A'26-'29;M'47), Asst. Engr., Street Dept., City of Chicago, City Hall, 2.

Sutherland, William L. (M'48), Bldg. Mech. Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.

Sutton, Harry (A'26), 312 Wilcox Bldg., Los Angeles 12, Calif.

Svenson, J. Harold (A'36), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.

Swab, Chas. E. (M'45), 6910 Oglesby Ave., 49.

Swan, L. L. (Aff'40), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.

Swanson, Carl E. (M'42), Partner, Soans, Pond & Anderson, 135 S. La Salle St., 3.

Swenson, Alfred H. (J'29;A'32), Insp. of Bldgs., Town of Westfield, 121 Prospect St., Westfield, N. J.

Swenson, Edwin H. (A'24;M'28), Ch. Engr., Central Manufacturing District, 38 S. Dearborn St., 3.

Swiatowski, William J. (M'44), 125 Beecher Ave., Winfield 3, Ill.

Switzenberg, Elmer A. F. (A'42), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.

SYKES, Wilfred (M'36) (Trustee), Pres., Inland Steel Co., 38 S. Dearborn St., 3.

Szypulski, Henry M. (S'46), Draftsman, Babcock & Wilcox Co., 5 S. Wabash Ave., 3.

Samminga, Ernest D. (A'48), Student Engr., Illinois Bell Telephone Co., 215 W. Randolph St., 6.

Tansey, John P. (J'39;A'42;M'46), Engr. & Asst. Supt., Herlihy Mid-Continent Co., 79 W. Monroe St., 3.

Taussig, Wm. S. (J'05-'09;M'47), Cons. Engr., 223 W. Jackson Blvd., 6.

Taylor, J. Hall (M'20), Chairman of the Board, Taylor Forge & Pipe Works, Box 485, 90.

Taylor, Orin H. (M'36), Engr., Dept. of Public Works, Div. of Spec. Improvement, 139 N. Clark St., 2.

Tear, Harry R. (M'48), Research Engr., Stewart-Warner Corp., 1826 Diversey Ave., 14.

Techau, Ernest R. (A'42), Ch. Estimator, Meyer & Turner Co., 1514 N. Wells St., 10.

Terrey, Wm. H. (M'24), Sec. Engr., Commonwealth Edison Co., 72 W. Adams St., 90.

Thatcher, William M. (A'41), Struct. Designer, American Bridge Co., 208 S. LaSalle St., 4.

Theilgaard, H. L. (S'48), 1351 N. Lockwood Ave., 51.

Thielke, Alvin (A'37;M'37), Sales Engr., Weston Electrical Instrument Corp., 205 W. Wacker Dr., 6.

Tholin, Albert L. (M'46), Engr. of Sewer Design, City of Chicago, 188 W. Randolph St., 1.

Thomas, Curtis W. (A'43), Sr. Machine Designer, Continental Can Co., 7600 S. Racine Ave., 20.

Thomas, Frank P. (M'42), Design Engr., Chicago Bridge & Iron Co., 332 S. Michigan Ave., 4.

Thomas, M. E. (J'96;M'00), Retired, 1015 First St., Boone, Iowa.

Thompson, David O. (A'28-'33;M'36), Bldg. Design Engr., Public Service Company of Northern Illinois, 72 W. Adams St., 3.

Thompson, M. D. (M'20), Spec. Engr., (Civil), Illinois Central Railroad Co., 135 E. 11th Pl., 5.

Thompson, Russell A. (M'35), Prin. Engr., U. S. Engineer Office, 222 W. North Bank Dr., 54.

Thompson, Wm. F. (M'47), Illinois Bell Telephone Co., 212 W. Washington St., 6.

Thoren, J. N. (M'20), 7923 Princeton Ave., 20.

Thornton, W. E. (A'42), U. S. Navy, B. O. Q., Great Lakes, Ill.

Thorsen, Harry T. (Aff'48), Salvage Engr., Public Service Company of Northern Illinois, 114 N. Oak Park Ave., Oak Park, Ill.

Thrane, Gilman (M'48), Supv., Engr. Drafting, Commonwealth Edison Company, 72 W. Adams St., 90.

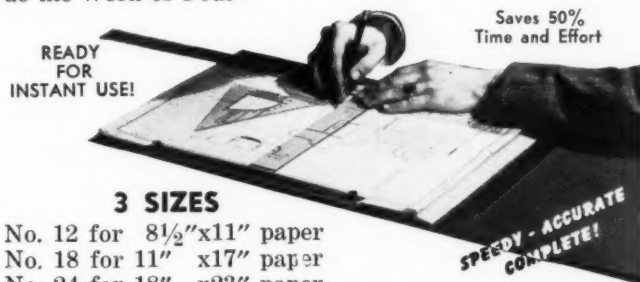
Tideman, S. N. (M'27), Elect. Engr., 1025 Linden Ave., Wilmette, Ill.

Till, Henry (M'48), Ch. Struct. Engr., Shaw, Metz & Dolio, 208 S. LaSalle St., 4.

Tingley, C. Ned (M'48), Engr., Continental Insurance Company of New York, 175 W. Jackson Blvd., 4.

Used Fast and Accurately BY AMATEUR OR STUDENT STERLING DRAFT-KIT

Thousands of our kits are daily used by Building Construction Men—Industry—Teachers and Students, who tell us how much time is saved on the job, by use of only Two Tools that do the Work of Four!



3 SIZES
No. 12 for 8½"x11" paper
No. 18 for 11" x17" paper
No. 24 for 18" x23" paper

Don't Delay—Send Today for Folder, Prices and Discounts.

STERLING DRAFT-KIT

Div. Sterling-Freeland Industries, Inc.

4701 N. WESTERN AVE.

CHICAGO 25, ILL.

(Patented. Pats. Pending. U. S. and Foreign Countries. T/M applied for)

MEMBERSHIP

- Tingley, E. M.** (M'28), Retired, 221 N. Cuyler Ave., Oak Park, Ill.
- Toale, Joseph P.** (M'26-'29;'44), Pres., Toale Appraisal Organization, Inc., 111 W. Washington St., 2.
- Todd, Samuel R.** (M'46), Chairman, Board of Examiners, Moving Picture Machine Operators, City of Chicago, 121 N. LaSalle St., 2.
- Todman, Harry G.** (M'45), Dist. Engr., Northwest Indus. Sales Div., United States Gypsum Co., 300 W. Adams St., 6.
- Toennies, Adlai K.** (A'36;M'44), Mech. Engr., U. S. Bureau of Mines, Oil Shale Demonstration Plant, Rifle, Colo.
- Tolar, James H.** (J'48), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Tomczak, Casimir A.** (S'44-'47;A'48), Tool Engr., U. S. Naval Ordnance Pt., 7500 W. Roosevelt Rd., Forest Park, Ill.
- Toreky, Zoltan G.** (M'48), Supv. Engr., Public Service Company of Northern Illinois, 72 W. Adams St., 3.
- Tornquist, E. L.** (A'27-'35;M'45), Engr. of Tests & Research, Public Service Company of Northern Illinois, 1319 S. First Ave., Maywood, Ill.
- Towle, James H.** (J'47), Sr. Draftsman, Ralph H. Burke, Chicago Orchard Airport, Park Ridge, Ill.
- Towne, John W.** (J'26;A'29-'35;'36;M'44), Asst. Engr. of Sewer Design, Sanitary District of Chicago, 910 S. Michigan Ave., 5.
- Townsend, Harvard C.** (A'26;M'47), Supt. of Equip. Engr., Western Electric Co., Inc., 100 Central Ave., Kearny, N. J.
- Townsend, Paul J.** (S'41;J'42), Traer, Ia.
- Traiser, L. M.** (J'24;A'30;M'47), Staff Engr., Chicago Transit Authority, 79 W. Monroe St., 90.
- Trees, George S.** (A'45), 820 Park Avenue, Hinsdale, Ill.
- Trees, Merle J.** (J'09;A'11;M'22), Chm. Bd., Chicago Bridge & Iron Co., 332 S. Michigan Ave., 4.
- Trent, Elmer J.** (A'44), Supv., Vice Pres. Of., Western Union Telegraph Co., 60 Hudson St., New York 13, N. Y.
- Trinkaus, Geo. J.** (M'37), Prin. Asst. Subway Engr., Dept. Subways & Superhighways, 20 N. Wacker Dr., 6.
- Trinkaus, W. H.** (M'19), Ch. Engr., Sanitary District of Chicago, 910 S. Michigan Ave., 5.
- Tripp, Albert L.** (Aff'31), Engr., Link-Belt Co., 300 W. Pershing Rd., 9.
- Trotter, James M.** (M'45), Vice Pres. & Ch. Engr., Royal Electric Mfg. Co., 1122 E. 87th St., 19.
- Troxel, F. D.** (A'29-'35;M'47), Elect. Engr., Sargent & Lundy, 140 S. Dearborn St., 3.
- Trumpis, Robert A.** (S'34;J'35;A'38-'43;M'45), Pres. & Ch. Engr., Trumpis-Collar and Associates, 2511 Wilshire Blvd., Los Angeles 5, Calif.
- Tryhuk, Edward W.** (A'47), Plant Layout Engr., Thor Corporation, 2125 S. 54th St., 50.
- Tucker, Belden S.** (M'48), Dist. Sales Mgr., Economy Pumps, Inc., 105 W. Monroe St., 3.
- Tucker, Stanley W.** (M'40), Maint. Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Tumenas, Frank P.** (S'48), 1224 S. 50th Ct., Cicero 50, Ill.
- Turck, J. A. V.** (M'17), 2371 N. Bay Rd., Miami Beach, Fla.
- Turneaure, F. E.** (M'97), Retired, 166 Prospect Ave., Madison 5, Wis.
- Turner, John B.** (M'48), Div. Plant Engr., Illinois Bell Telephone Co., 1025 Sunnyside Ave., 40.
- Turner, John R.** (M'20), Gen. Staff Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Turner, Ralph E.** (M'20), Editorial Cons., Technical Publishing Co., 53 W. Jackson Blvd., 4.
- Tuttle, L. W.** (A'28-'39;M'45), Asst. Mgr., Gas Opera., Public Service Company of Northern Illinois, 72 W. Adams St., 3.
- Twitchell, Howard W.** (Aff'34-'36;A'38), Struct. Engr. Draftsman, Burlington Railroad, 547 W. Jackson Blvd., 6.
- Tyrrell, W. J.** (M'48), C-4 Preston Apts., Pennsylvania & Atlantic Sts., Atlantic City, N. J.
- Ufer, H. W.** (M'20), Oper. Mgr., Griffin Wheel Co., 445 N. Sacramento Blvd., 12.
- Uitti, Arne E.** (M'48), Supt., Lindberg Steel Treating Co., 222 N. Laflin St., 7.
- Uitti, George I.** (M'47), Arch'l. Engr., Chicago Board of Education, 228 N. LaSalle St., 1.
- Umeda, Joe** (S'46;J'48), Draftsman, Federal Gov't, McClellan Air Base, Sacramento, Calif.
- Unruh, George F. J.** (A'48), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Urbain, Leon D.** (A'46), Struct. Engr., Hazelet & Erdal, 53 W. Jackson Blvd., 4.
- Usler, Norman B.** (J'26-'30;M'44), Supt. of Bldgs., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Uzis, Albert A.** (J'43;A'46), Met. Engr., Superheater Co., 122 S. Michigan Ave., 3.
- Vacek, Bohumir** (Aff'27-'32;'38), Struct. Designer, 2809 S. Drake Ave., 23.
- Vallette, Frederic F.** (M'44), Cen. Of. Planning Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Valonis, Edmund J.** (S'48), 8010 S. Vincennes Ave., 20.
- Valvoda, Frank R.** (S'48), 2837 Wenonah Ave., Berwyn, Ill.
- Van Aken, Cordon R.** (M'47), Asst. Ch. Elect. Engr., De Leuw, Cather & Co., 150 N. Wacker Dr., 6.
- Vanderkolk, William W.** (M'48), Assoc. Arch., University of Illinois (Chicago Prof. Campus), 721 S. Wood St., 12.
- Vanderpool, A. M.** (M'28), Mfg. Engr., Western Electric Co., Inc., Hawthorne Works, 23.
- Vandervalk, John W.** (M'48), 2117 N. 76th St., Elmwood Park P. O., 35.
- Van Gorp, Dick** (J'28;A'31;M'47), Ch. Subway Engr., Dept. of Subways & Superhighways, 20 N. Wacker Dr., 6.
- Van Hook, Wendell A.** (M'24), Cons. Engr., 1859 Oxley St., South Pasadena, Calif.
- Van Horton, Claude C.** (M'37), 536 S. Clark St., 5.
- Van Trump, Isaac** (M'14), Dir. of Tests, Van Trump Testing Laboratory, 329 S. Wood St., 12.
- Van Trump, K. S.** (M'44), Research Engr., Van Trump Testing Laboratory, 329 S. Wood St., 12.
- Van Trump, Roderick** (M'44), Asst. Dir. & Mgr. Southern Div., Van Trump Testing Laboratory, 500 E. Markham, Little Rock, Ark.
- Van Valkenburg, H. V.** (M'46), Dist. Mgr., Anaconda Wire & Cable Co., 20 N. Wacker Dr., 6.
- Van Weelden, M. J.** (A'45), Elect. & Mech. Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Van Zelst, Theo. W.** (J'48), Civil Engr., Dept. of Subways & Superhighways, 20 N. Wacker Dr., 6.
- Varenhorst, Francis G.** (A'47), Equip. Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Vavrinek, LeRoy J.** (M'47), Ch. Engr., Benjamin Electric Mfg. Co., Des Plaines, Ill.
- Vent, Fred G.** (J'99;M'01), Retired, 1124 E. 44th St., 15.
- Ventrella, Angelo D.** (A'46), Partner, Mancini, Ventrella & Sons, 912 W. Taylor St., 7.
- Verity, R. C.** (M'48), Gen. Plant Mgr., Illinois Bell Telephone Co., 212 W. Washington St., 6.
- Vetterick, Arthur C.** (A'48), Engr. Draftsman, Dept. of Subways & Superhighways, 20 N. Wacker Dr., 6.
- Vial, Charles H.** (M'29), Asst. Gen. Traf. Supt., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Vicklund, Theodore** (A'40), 3616 Wenonah Ave., Berwyn, Ill.
- Vierling, Robert L.** (M'48), Sec'y., Cierling Steel Works, 53 W. Jackson Blvd., 4.
- Vinet, Eugene** (M'23), Proj. Engr., c/o Club Americano, Apartado 766, Caracas, Venezuela.
- Vivoda, John V.** (S'24-'26;M'45), Sales Mgr., New City Iron Works, 5415 S. Claremont Ave., 9.
- Vogel, Arthur G.** (M'46), Gen. Mgr., Rempe Co., 340 N. Sacramento Blvd., 12.
- Vose, Richard H.** (M'29-'34;'38), Retired, 301 Meacham Ave., Park Ridge, Ill.
- Voskuil, Walter M.** (M'32), Mineral Economist, Illinois State Geological Survey, Champaign, Ill.
- Voss, Irwin N.** (A'48), Plant Engr., Illinois Bell Telephone Co., 131 N. Franklin St., 6.
- Wachs, Edward H.** (M'48), Sec'y., The E. H. Wachs Co., 1525 Dayton St., 22.
- Wade, Irving L.** (J'24;A'28;M'47), Mgr. Elect. Prod., Public Service Company of Northern Illinois, 72 W. Adams St., 3.
- Wade, James C.** (M'41), 77 N. State St., Elgin, Ill.
- Wade, J. William** (M'48), Vice Pres., John Griffiths & Son Construction Co., 228 N. LaSalle St., 1.
- Wade, Reginald N.** (M'27), Engr. M. of W., Chicago Transit Authority, 79 W. Monroe St., 3.
- Wadsworth, W. J.** (M'27), Elect. Engr., Vern E. Alden Co., 120 S. LaSalle St., 3.
- Wagner, Harvey F.** (M'28), Sr. Asst. Subway Designer, Bureau of Subways and Superhighways, 20 N. Wacker Dr., 6.
- Wagner, John L.** (M'43), Retired, 1826 N. 75th Ct., Chicago 35, Ill.
- Wagner, Ralph W.** (M'22), Retired, 1370 Greenleaf Ave., 26.
- Wagner, Raymond** (M'46), Supt. of Operation, Roberts and Schaefer Co., 130 N. Wells St., 6.
- Wahlin, Fred W.** (A'34;M'46), Ch. Engr., Spraying Systems Co., 4023 W. Lake St., 24.
- Wahlstrom, Robert D.** (A'47), Div. Comm. Mgr., Western Union Telegraph Co., 427 S. LaSalle St., 5.
- Walker, Charles W.** (A'40;M'48), 5643 Broadway, 40.
- Walker, Edwin G.** (M'46), Supt. of Bldgs., R. R. Donnelley & Sons Co., 350 E. 22nd St., 16.

- Walker, Harry** (M'44), Const. Supv., Chicago Park District, 425 E. 14th St., 7.
- Walker, Reno R.** (M'46), Pres., Engineering & Development Corp., 53 W. Jackson Blvd., 4.
- Wallace, Dwain M.** (M'47), Asst. Engr., Jacob A. Harman, Inc., 144 Fredonia, Peoria, Ill.
- Wallace, William B.** (S'48), 7919 S. Hermitage Ave., 20.
- Wallace, W. Wayne** (M'35), Dist. Engr., Portland Cement Association, 33 W. Grand Ave., 10.
- Walling, R. A.** (M'38), The Walling Co., 521 S. 15th St., Omaha, Nebr.
- Walling, V. R.** (M'28), Ch. Engr., C. & W. I. R. Co. and The Belt Ry. Co. of Chicago, 47 W. Polk St., 5.
- Walls, C. A.** (M'36), Field Engr., Portland Cement Association, 33 W. Grand Ave., 10.
- Walton, Chas. S.** (M'20-'21-'43), Designing Engr., MacDonald Engineering Co., 188 W. Randolph St., 1.
- Wampler, Charles E.** (M'47), Asst. Vice Pres., Illinois Bell Telephone Co., 212 W. Washington St., 6.
- Wanderer, Alwin E.** (M'48), Ch. of Mech. Design Sect., Western Electric Co., Inc., Hawthorne Works, 23.
- Ward, James J.** (M'48), Vice Pres., Coats & Burchard Co., 4411 N. Ravenswood Ave., 40.
- Wardle, Andrew N.** (M'30), Subway Contract Engr., Dept. of Subways & Superhighways, 20 N. Wacker Dr., 6.
- Warner, William H.** (J'10-'A'13-'M'37), 2243 Forest View Rd., Evanston, Ill.
- Warren, Albert R.** (M'48), Neiler, Rich & Bladen, 431 S. Dearborn St., 5.
- Warren, Alexander** (J'99-'M'03), 313 S. York St., Elmhurst, Ill.
- Warshaw, Milton** (S'41-'J'42), Owner, Columbia Engineering Co., 542 S. Dearborn St., 5.
- Wass, John, Jr.** (A'32), 119 E. 83rd St., New York, N. Y.
- Wasson, Theron** (M'29), Ch. Geologist, The Pure Oil Co., 35 E. Wacker Dr., 1.
- Waters, John M.** (M'39), Sales Engr., Foxboro Co., 1539 Bay Ave., S. W., Birmingham 7, Ala.
- Watschke, Arthur J.** (A'46), Relay Designer, Cook Electric Company, 2700 Southport Ave., 14.
- Watson, Harry P.** (M'46), Ch. Mech. Engr., DeLeuw, Cather & Co., 150 N. Wacker Dr., 6.
- Way, John S.** (M'41), Supt. of Substations, Commonwealth Edison Co., 72 W. Adams St., 90.
- Way, Edward W.** (J'34-'A'36), 5800 S. Justine St., 36.
- Waychus, Felix J.** (A'48), Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.
- Wayne, A. Alvin** (M'36), Engr., Pennsylvania Railroad Co., Union Station, 6.
- WEBB, C. Earl** (M'31) (Past President), Ch. Engr., American Bridge Co., Frick Bldg., Pittsburgh 19, Pa.
- Weber, Carl** (M'04), Pres., The Presscrete Co., Inc., Graybar Bldg., New York 17, N. Y.
- Weber, Emil A.** (M'19), Pres., McMullen & Pitz Construction Co., 923 Commercial St., Manitowoc, Wis.
- Weber, John P., Jr.** (J'46), Electronics Engr., Bell & Howell Co., 7100 McCormick St., Lincolnwood, Ill.
- Weber, Roland E.** (J'49), Fire Prot'n. Engr., Marsh & McLennan, Inc., 231 S. LaSalle St., 4.
- Weber, Valentine F.** (M'48), Sr. Surveyor, Commonwealth Edison Co., 72 W. Adams St., 90.
- Webster, Arthur L.** (M'12-'32-'42), 130 E. Liberty Dr., Wheaton, Ill.
- Webster, E. E., III** (J'47), 226 S. Prospect Ave., Wheaton, Ill.
- Wedgwood, John L.** (A'47), Asst. to Power Accountant, Commonwealth Edison Co., 72 W. Adams St., 90.
- Weeks, Edward L.** (A'24-'30-'M'44), 268 Walker Ave., Highland Park, Ill.
- Weeks, Gilbert E.** (M'46), Research Engr., Western Electric Co., Inc., Hawthorne Works, 23.
- Weeks, Lawrence E.** (A'47), Sales Engr., Yale & Towne Mfg. Co., 2900 N. Western Ave., 18.
- Wegener, E. C.** (M'46), Div. Service Mgr., Public Service Company of Northern Illinois, 1701 S. First Ave., Maywood, Ill.
- Weicker, Philip** (J'25-'A'30-'M'47), Sales Engr., Getz Coal Co., 400 N. Michigan Ave., 11.
- Weiner, R. S.** (M'30), Electrolux Corp., Old Greenwich, Conn.
- Weinstein, Norman** (M'48), Vice Pres. & Treas., Calisco Engrg. Div., Calumet Iron & Supply Co., 175 W. Chicago Ave., East Chicago, Ind.
- Weissappel, B. J.** (M'45), Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.
- Weldy, Lawrence L.** (A'41), Dist. Mgr., Roller-Smith Co., 20 N. Wacker Dr., 6.
- Wells, Arthur H.** (M'48), Pres., John Griffiths & Son Construction Co., 228 N. LaSalle St., 1.
- Wells, E. Roy** (A'19-'M'47), Ch. Engr., Illinois Post-War Planning Commission, 322½ E. Adams St., Springfield, Ill.
- Wells, Melville B.** (M'05), 11252 S. Oakley St., 43.
- Welton, Kenneth E.** (M'48), St. Asst. Subway Engr., Dept. of Subways and Superhighways, 20 N. Wacker Dr., 6.
- Wendell, Everett J.** (M'46), Co. Supt. of Highways, Peoria County, Ill., Court House, Peoria 2, Ill.
- Werlich, Julius F.** (M'09), Retired, 602 Forest Ave., River Forest, Ill.
- Wessling, Kenneth G.** (A'46), Commonwealth Edison Co., 72 W. Adams St., 90.
- West, Gifford Bethell** (M'28), Ch. Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.
- West, Paul B.** (M'46), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Westburg, Paul A.** (M'19), Dist. Mgr., Weston Electrical Instrument Corp., 205 W. Wacker Dr., 6.
- Westcott, C. H.** (J'15-'A'22-'M'28), Pres., Westcott Engineering Co., 205 W. Wacker Dr., 6.
- Westcott, E. J.** (A'26-'M'34), Sec'y., Freyn Engineering Co., 109 N. Wabash Ave., 2.
- Westenhoff, Alphonse M.** (M'48), Engr. of Const., New York Central System, Lines West, LaSalle St. Station, 5.
- Weston, James E.** (M'19-'38-'47), Supt. Maint., Morrison Hotel Corp., 79 W. Madison St., 2.
- Wetherell, Dwight N.** (M'46), Ch. Struct. Engr., Texas Div., Dow Chemical Co., Freeport, Texas.
- Wetzel, Richard A.** (J'46-'A'47), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Wheeler, Warren C.** (M'46), Const. Engr., Anning-Johnson Co., 1514 W. Van Buren St., 7.
- Wheeler, William C.** (M'46), Asst. to Ch. Engr., St. Louis Car Co., 8000 N. Broadway, St. Louis 15, Mo.
- Whipple, Willis Z.** (M'45), Ch. Engr., Chicago Eye Shield Co., 2300 Warren Blvd., 12.
- Whitaker, John A.** (A'25-'M'37), Designer, Consolidated-Vultee, San Diego, Calif.
- White, Donald O.** (A'32), The American Asphalt Paving Co., 9701 S. Torrence St., 17.
- White, H. G. R.** (A'41), Research Engr., Armour Research Foundation, 35 W. 33rd St., 16.
- White, Linn** (M'07), Retired, Box 1194, c/o O. Rogers, Coral Gables, Fla.
- Whitehead, L. E.** (M'48), Supv., Substation Dept., Commonwealth Edison Co., 72 W. Adams St., 90.
- WHITING, Fred T.** (M'45) (Trustee), Vice Pres., Westinghouse Electric Corp., 20 N. Wacker Dr., 6.
- Whitney, Richard A.** (M'27), Gen. Planning Engr., Public Service Company of Northern Illinois, 72 W. Adams St., 3.
- WHITTIER, Charles C.** (M'03) (Past President), Partner, Nutrition Research Laboratories, 4210 Peterson Ave., 30.
- Whitton, A. Wm.** (A'46), Asst. Supt. of Power, Public Service Company of Northern Illinois, 908 Clark St., Evanston, Ill.
- Wickline, B. D.** (A'47), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Wicks, C. H.** (A'36), Civil Engr., Corps of Engineers, 222 W. North Bank Dr., 54.
- Wickstrom, George, Sr.** (M'46), Ch. of Design, Vern E. Alden Co., 120 S. LaSalle St., 2.
- Wieboldt, R. C.** (M'20), Pres., R. C. Wieboldt Co., 2353 Blue Island Ave., 8.
- Wieboldt, R. C., Jr.** (J'41-'A'47), Asst. Sec'y., R. C. Wieboldt Co., 2353 Blue Island Ave., 8.
- Wiemers, George H.** (M'48), Engr., Commonwealth Edison Co., 72 W. Adams St., 90.
- Wier, Robert J.** (M'47), Staff Engr., Battey & Childs, 231 S. LaSalle St., 4.
- Wiese, Ralph A.** (A'46), 40 Standish Blvd., Pittsburgh 16, Pa.
- Wight, Raulin B.** (M'46), Owner, Wight and Company, 1008 Curtiss St., Downers Grove, Ill.
- Wilcox, Warren S.** (M'36), 4200 N. Lawndale Ave., 18.
- Wilcoxon, Lee** (M'47), Dir. of Training, Industrial Training Institute, 2150 Lawrence Ave., 25.
- Wilczewski, Stanley J.** (S'48), 2303 S. Drake Ave., 23.
- Wild, Earle** (M'45), Ch. Load Dispatcher, Commonwealth Edison Co., 72 W. Adams St., 90.
- Wilde, Richard D.** (S'47), Osceola, Ia.
- Wilkins, A. P.** (M'46), Div. Plant Engr., Illinois Bell Telephone Co., 215 W. Randolph St., 6.
- Wilkins, Dean C.** (M'48), Asst. to Div. Vice Pres., Public Service Company of Northern Illinois, 159th & Fisk Sts., Harvey, Ill.
- Wilkinson, Cyril J.** (M'48), Supt., Generating Sta., Western United Gas & Electric Co., Aurora, Ill.
- Wilkinson, Walter** (J'13-'A'20-'33-'M'43), Squad Leader, American Bridge Co., Gary, Ind.
- Willet, G. R.** (M'47), Partner, G. R. Willet & Company, 666 Lake Shore Dr., 11.
- Williams, Albert P.** (M'46), Pres., Wilmak Corp., Benton Harbor, Mich.
- Williams, Earl C.** (M'23), Mgr., Power Supply, Public Service Company of Northern Illinois, 72 W. Adams St., 3.

MEMBERSHIP

- Williams, Geo. M.** (A'46), Asst., Public Service Company of Northern Illinois, 3.
- Williams, Kenneth** (M'41), Pres., D. H. Skeen & Co., 1 N. LaSalle St., 2.
- Williams, R. E.** (A'24-'35; M'46), Sec. Engr., Commonwealth Edison Co., 72 W. Adams St., 90.
- Williams, Sidney J.** (M'20-'32; '45), Asst. to the Pres., National Safety Council, 20 N. Wacker Dr., 6.
- Williams, Stanley Ed.** (M'46), Plant Draftsman, Generating Stations Group, Commonwealth Edison Co., 72 W. Adams St., 6.
- Williams, W. Owen** (A'40), Mfrs. Serv. Rep., Socony Vacuum Oil Co., Inc., 59 E. Van Buren St., 5.
- Williamson, Harold W.** (A'37), Jr. Asst. Engr., Chicago Park District, 4501 N. Marine Dr., 40.
- Wilson, Alexander L.** (A'30; M'47), Field Engr., Mississippi Valley Structural Steel Corp., 25th & Norwood Sts., Melrose Park, Ill.
- Wilson, Harry A.** (M'46), Sales Engr., G. J. Nikolas & Co., 2800 W. Washington St., Bellwood, Ill.
- Wilson, Joel R.** (M'46), Ch. Engr., Marsh and McLennan, Inc., 231 S. LaSalle St., 4.
- Wilson, John E.** (M'20), Gen. Supt., Swift & Company, Union Stock Yards, 9.
- Wilson, Thomas** (M'16), Engrg. Personnel Work, United Engineers & Constructors, Inc., 111 W. Washington St., 2.
- Wilson, W. H.** (Aff'20), Retired, 22 W. 110th Pl., 28.
- Wilson, W. M.** (M'07), Research Prof. of Struct. Engrg., University of Illinois, Urbana, Ill.
- Wingfield, Clarence A.** (A'48), Supv. of Inspectors, Commonwealth Edison Co., 72 W. Adams St., 90.
- Winter, Geo. R.** (M'45), Vice Pres., Hansell-Elcock Co., 485 W. 23rd St., 16.
- Winter, Herbert J.** (S'48), 7352 Constance Ave., 49.
- Winzenburg, Erwin H.** (M'35), Address unknown.
- Wirth, Herbert R.** (A'42), 10933 California Ave., 43.
- Wise, Royal C.** (M'20), 2824 Harrison St., Evanston, Ill.
- Wishard, W. W.** (M'48), Sta. Design Engr., Commonwealth Edison Co., 72 W. Adams St., 90.
- Wisner, Joseph F., Jr.** (S'48), 4021 N. Menard Ave., 34.
- Witt, J. C.** (M'36), Cons. Engr., 20 N. Wacker Dr., 6.
- Wittlinger, Carl A.** (A'21-'35; M'40), Ch. Tool Engr., The S. S. White Dental Mfg. Co., Prince Bay, Staten Island 9, N. Y.
- Wohlgemuth, John F.** (M'45), Div. Supt., Chicago Div., Great Lakes Dredge & Dock Co., 122 S. Michigan Ave., 3.
- Wolf, C. Walter** (M'46), Elect. Engr., Chicago Transit Authority, 79 W. Monroe St., 3.
- Wolfe, Thomas F.** (A'20; M'23), Ch. Engr., Cast Iron Pipe Research Association, 122 S. Michigan Ave., 3.
- Wolff, Bruno B.** (M'43), Engr. & Ch. Draftsman, Jones & Laughlin Steel Corp., 2250 W. 47th St., 9.
- Wolff, Edward J.** (M'48), Sec'y., Bueter & Wolff, Inc., 37 S. Wabash Ave., 3.
- Wolff, George E.** (S'21; J'24; A'26-'31; M'47), Plant Engr., Griffin Wheel Co., 445 N. Sacramento Blvd., 12.
- Wolff, Herbert A.** (A'46), Ch. Plant Engr., R. R. Donnelley & Sons Co., 350 E. 22nd St., 16.
- Wolford, Gilbert F.** (M'47), Engr., Commonwealth Edison Co., 72 W. Adams St., 90.
- Wolhaupter, Benjamin** (M'90), Retired, Silvermine, R. R. 2, Norwalk, Conn.
- Woloshin, Boris** (M'45), Engr., Line Design Div., Commonwealth Edison Co., 72 W. Adams St., 90.
- Wood, David P.** (M'46), Div. Sales Mgr., Public Service Company of Northern Illinois, 1701 S. First Ave., Maywood, Ill.
- Wood, Donald G.** (A'36), Struct. Draftsman, Frank A. Randall & Sons, 205 W. Wacker Dr., 6.
- Wood, Rollin D.** (M'43), Chairman, Mississippi Valley Structural Steel Co., 111 W. Washington St., 2.
- Wood, Stephen G.** (M'43), Supv., Vocational Dept., Board of Education, 228 N. LaSalle St., 1.
- Woodruff, Albert E.** (A'34; M'44), Dir., Analytical Research, Automatic Electric Co., 1033 W. Van Buren St., 7.
- Woolhiser, H. L.** (M'20), Village Hall, Winnetka, Ill.
- Woolsey, Robert J.** (A'48), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Wootton, John H.** (M'36), Plant Supt., American District Telegraph Co., 29 S. LaSalle St., 3.
- Worcester, Donald H.** (M'46), Asst. Engr. of Signals, Chicago Transit Authority, 79 W. Monroe St., 3.
- Woselowsky, George S.** (J'43; A'45), Const. Engr., Santucci Construction Co., LeClaire & Carol Sts., Skokie, Ill.
- Wray, David C.** (M'04), Retired, Box 207, Doylestown, Pa.
- Wright, Wm. Ryer** (M'22), Mgr., Chicago Of., Ford-Bacon-Davis, Inc., 135 S. LaSalle St., 3.
- Wuellner, Wm. W.** (A'46), Engr., Illinois Bell Telephone Co., 208 W. Washington St., 6.
- Wulfing, H. E.** (M'28), Retired, 10500 S. Hoyne Ave., 43.
- Wundrach, Louis** (M'42), Engrg. Draftsman, Sanitary District of Chicago, 910 S. Michigan Ave., 5.
- Wyand, John J.** (A'48), Sr. Draftsman, General American Transportation Corp., 209 W. Jackson Blvd., 4.
- Wysocky, L. F.** (M'48), Ch. Engr., R. F. Houlihan & Associates, Inc., 30 N. Dearborn St., 2.
- Yarline, Frank W.** (M'36), Owner, Frank W. Yarline & Co., 20 N. Wacker Dr., 6.
- Yerges, Lyle F.** (A'47), Mdse. Mgr., Ind. Ins. & S. C., U. S. Gypsum Co., 300 W. Adams St., 6.
- Yexley, S. A.** (A'48), Sales Engr., Commonwealth Edison Co., 5601 S. Lowe Ave., 21.
- Yonkers, Edward H.** (M'48), Joslyn Mfg. & Supply Co., 969 W. 37th Pl., 9.
- Yost, Verne W.** (A'20-'33; M'47), Dist. Equip. Engr., Western Electric Co., Inc., Hawthorne Works, 23.
- Young, Albert Miller** (J'30; A'32; M'47), Staff Mbr., Sales Analysis Institute, 230 S. Clark St., 4.
- Young, Hugh E.** (M'19), Engr. of Design, Ralph H. Burke, Bryn Mawr & Wolf Rd., Bensenville, Ill.
- Young, J. L.** (A'30; M'38-'41; '47), Pres., Young & Greenawalt Co., 1011 E. 148th St., East Chicago, Ind.
- Young, Leo N.** (M'48), Sr. Draftsman, Commonwealth Edison Co., 72 W. Adams St., 90.
- Young, M. F.** (A'48), Draftsman, Freyn Engineering Co., 109 N. Wabash Ave., 2.
- Young, R. E.** (J'41; A'44), Power Engr., Public Service Company of Northern Illinois, 388 E. Court St., Kankakee, Ill.
- Zachary, J. L.** (Aff'47), Indus. Training and Educa. Specialist, Commonwealth Edison Co., 72 W. Adams St., 90.
- Zacher, Clarence H. R.** (S'30; J'35; A'39), Instructor, Drafting & Mech. Technology, Purdue University Technical Institute, Hammond, Ind.
- Zack, Hans J.** (M'36), Pres., The Zack Company, 2311 W. Van Buren St., 12.
- Zaiser, Earl E.** (S'46), Struct. Draftsman, Spokane County Engineering Office, Court House, Spokane 11, Wash.
- Zaltzman, Herbert** (S'48; J'49), 3551 W. 13th Pl., 23.
- Zane, Robert B.** (M'45), Dist. Engr., The Okonite Company, 20 N. Wacker Dr., 6.
- Zapel, Elmer J.** (M'29), Asst. Div. Mgr., Great Lakes Dredge & Dock Co., 122 S. Michigan Ave., 3.
- Zeliber, Marvin H.** (S'48), 1904 S. 49th Ave., Cicero 50, Ill.
- Zeman, Arthur F., Jr.** (A'47), Asst. Engr., Great Lakes Dredge & Dock Co., 122 S. Michigan Ave., 3.
- Zenner, Walter J.** (J'31-'32; A'33; M'44), Cons. Engr., Teletype Corp., 1400 Wrightwood Ave., 14.
- Zermuehlen, H. W.** (J'30-'33; M'48), Dial Equip. Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.
- Zettke, Frank** (A'19; M'31), Tool Design Engr., Kellogg Switchboard and Supply Co., 6650 S. Cicero Ave., 38.
- Ziebold, Eugene H.** (M'47), Dir. of Engrg., Cook Electric Co., 2700 Southport, 14.
- Ziemann, Howard C.** (J'47), Traf. Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.
- Ziesing, Henry H.** (J'10; M'23), N. Wayne Ave., Wayne, Pa.
- Zima, George** (A'47), Ch. Engr., George Zima & Associates, 8 S. Dearborn St., 3.
- Zimmer, Walter R.** (A'47), Estimating, Elect. Engr., Electrical Construction, Inc., 416 W. Erie St., 10.
- Zimmerman, Frederick C.** (S'47; J'48), Sales Engr., New York Blower Co., 3155 S. Shields Ave., 16.
- Zink, Gordon G.** (J'43; A'46), Test Engr., Youngstown Sheet & Tube Co., 9355 Krieter Ave., 17.
- Zink, Maximilian A.** (A'48), Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.
- Ziolkowski, C. S.** (M'46), Mgr., Ins. & Loss Prevention Dept., Montgomery Ward & Co., 619 W. Chicago Ave., 10.
- Zmeskal, Otto** (M'48), Dir., Dept. of Metallur. Engrg., Illinois Institute of Technology, 3300 S. Federal St., 16.
- Zoeter, Homer B.** (A'35; M'43), Plant Engr., Continental Can Co., Inc., 5401 W. 65th St., 38.
- Zonsius, Lester J.** (A'47), Supv. (Field), Commonwealth Edison Co., 2233 S. Throop St., 8.
- Zwerg, Harold R.** (A'43), Engr., Illinois Bell Telephone Co., 212 W. Washington St., 6.

DECEASED

The following deaths have been reported since the publication of the last Year Book:

Name	Grade	Joined	Died
Harry B. Johnson, Jr.	Member	Oct. 30, 1945	July, 1947
A. P. Gerhardt	Member	July 23, 1924	Sept. 19, 1947
E. E. R. Tratman	Life Member	July 1, 1899	Nov. 30, 1947
H. G. Warr	Member	Dec. 16, 1919	Dec. 10, 1947
Frank E. Brown	Member	Mar. 23, 1916	Dec. 14, 1947
Otis Weeks	Life Member	July 26, 1906	Jan., 1948
Walter G. Zimmerman	Member	May 29, 1928	Jan. 13, 1948
Richard T. Logeman	Life Member	July 9, 1913	Feb. 6, 1948
Fred L. Thompson	Life Member	Apr. 23, 1903	Feb. 27, 1948
Walter H. Seegrist	Member	Jan. 4, 1936	Mar. 3, 1948
Albert Smith	Life Member	Feb. 9, 1905	Mar. 9, 1948
Alfred Mills	Member	Dec. 21, 1942	Mar. 19, 1948
James E. Maloney	Life Member	May 3, 1893	Mar. 22, 1948
Raphael M. Hosea	Life Member	Feb. 11, 1904	Apr. 12, 1948
J. G. Wray	Life Member	May 17, 1904	Apr. 14, 1948
L. R. Mapes	Member	Apr. 11, 1928	May 1, 1948
Bruno C. Zielinski	Member	May 4, 1931	May 9, 1948
Arthur Montzheimer	Life Member	Apr. 11, 1903	May 20, 1948
Raymond W. Dull	Member	Oct. 23, 1907	July 19, 1948
Jens P. Nielsen	Member	Aug. 8, 1946	July 23, 1948
C. J. Kennedy	Member	Mar. 27, 1936	Aug., 1948
Clarence R. Knowles	Member	Nov. 26, 1919	Aug. 6, 1948
Carl P. Schroeder	Life Member	Dec. 12, 1904	Aug. 19, 1948
Waldo H. Petersen	Member	Sept. 3, 1946	Aug. 30, 1948
Charles R. Salisbury	Life Member	June 11, 1907	Sept. 10, 1948
H. J. Lynch	Member	Jan. 16, 1920	Sept. 13, 1948
J. M. Humiston	Member	Jan. 9, 1920	Sept. 19, 1948
George C. Baldwin	Associate	Oct. 7, 1947	Oct. 2, 1948
Daniel W. Mead	Hon. Member	Mar. 1, 1887	Oct. 13, 1948
M. P. Vore, Jr.	Member	Dec. 31, 1919	Oct. 20, 1948
J. C. Sanderson	Life Member	Nov. 8, 1906	Nov. 15, 1948
Charles J. La Mena	Member	Mar. 28, 1929	Dec. 20, 1948

L. BALKIN BUILDER, Inc.

3610-18 S. ALBANY AVE.

CHICAGO 32, ILL.

Telephones: YArds 7-6927-28-29

Building Construction

Building Alterations

Heavy Engineering

Construction

Power Plants

Highway and Railway Bridges

WILLIAM A. POPE COMPANY

CONTRACTORS

COMPLETE PIPING
INSTALLATIONS

HEATING
INDUSTRIAL
PUBLIC UTILITY

26 NO. JEFFERSON ST.
CHICAGO

Geographical Distribution

—Not Including City of Chicago

ALABAMA

Birmingham
Russell, James D.
Waters, John M.
Mobile
Arn, W. G.
Tuscaloosa
McElhiney, M. Milo

ARABIA

Oddo, Dominic J.

ARIZONA

Phoenix
Girand, Jabes B.
Tucson
Nickel, D. A.

ARKANSAS

Little Rock
Van Trump, Roderick

CALIFORNIA

Altadena
Robson, Carl D.
Belvedere
Bee, Albert W.
Carmel
Roper, Denney W.
Coalinga
Lyon, Edw. A., Jr.
El Segundo
Poppe, Charles J.
La Mesa
Simpson, Earl B.
Long Beach
Sandham, R. D.
Los Angeles
Bennington, Dorwyn S.
Bulot, Francis H.
Floryan, John E., Jr.
Mitchell, Roy C.
Mitzenmacher, Erwin
Moss, R. S.
Nill, Raymond W.
Potter, W. G.
Putnam, Rufus W.
Sutton, Harry
Trumpis, Robert A.
Ojai
Randolph, Robert Isham
Pasadena
Fritch, Louis C.
Gifford, Robert L.
Richmond
Lovell, Edward L.
Sacramento
Umeda, Joe
San Diego
Nelson, W. P.
Krasa, Albert
Whitacker, John A.
San Francisco
Herold, P. J.
Jackling, D. C.
San Luis Obispo
Reece, R. H.
San Mateo
Gayman, Bert A.
Kelker, R. F., Jr.
San Pedro
Blye, Eugene N.
Santa Maria
Prell, John S.

South Pasadena
Van Hook, Wendell A.
Stanford University
Hobson, Jesse E.
Hoover, Herbert
Vallejo
Peterson, Curtiss J.

CANADA

Montreal
Brace, James Henry
Toronto
Smith, Guy E.
Vancouver
Simons, Howard A.

COLORADO

Denver
Crocker, Herbert S.
Kukar, J. R.
Marsh, Don E.
Skinner, Sylvan J.
Empire
Roberts, Thomas D.
Rifle
Toennies, Adlai K.

CONNECTICUT

Old Greenwich
Weiner, R. S.
Norwalk
Wolhaupter, Benjamin

FLORIDA

Clearwater
Henderson, Roy M.
Coral Gables
White, Linn
Jacksonville
Storey, Donald G.
Melbourne
Abbott, W. Rufus
Miami
Gebhardt, George F.
Jameson, William
Miami Beach
Blumberg, M. D.
Turck, J. A. V.
Orlando
Layng, Charles
Palm Beach
Brown, Paul G.
St. Petersburg
McNicol, John C.
Winter Park
MacDowell, Charles H.

GEORGIA

Atlanta
Rain, A. J.
Renner, Archie C.
Brown, S. K.

HAWAII

Honolulu
Bennett, J. Gardiner
Morgan, J. Grant

DISTRICT OF COLUMBIA

Washington
Bird, Byron
Floyd, W. H., III
Marx, Lester M.
Parker, Lawrence G.
Sedgwick, Frederick W.
Smith, Gilbert M.
Smith, Vincent B.

ILLINOIS

Anchor
Stewart, Clinton B.
Aurora
Bliss, Daniel E.
Hartzler, Melvin E.
Richardson, B. R.
Wilkinson, Cyril J.
Bellwood
Daley, James C.
Horstmann, Roy J.
Maurer, L.
O'Brien, W. P.
Wilson, Harry A.
Wilson, Alexander L.
Bensenville
Young, Hugh E.
Berwyn
Valvoda, Frank R.
Vicklund, Theodore
Blue Island
Rohrdanz, Edwin C.
Bloomington
Ewing, Gerald E.
Brookfield
Hooper, J. R.
Carbondale
Dexheimer, Roy B.
Centralia
Moberg, Alfred R., Jr.
Champaign
Kapple, W. H.
Voskuil, Walter M.
Chicago Heights
Burton, Elmer W.
Ephgrave, John O.
Link, Oren R.
McKee, Keith E.
Mulford, Edgar T.
Cicero
Brizzolara, C. A.
Enander, John O.
Keoughan, Lawrence
Lincoln, Thomas W.
Lusk, George E.
Tumenas, Frank P.
Zeliber, Marvin H.
Danville
Shaver, A. G.
Decatur
Hill, Chas. O.
Jaedtke, Marshall F.
Delavan
Hight, E. S.
Des Plaines
Bassett, James J.
Fletcher, E. N.
Nelson, Edward E.
Vavrinek, LeRoy J.
Dixon
Anderson, Robert Howard
Downers Grove
Baylor, C. L.
Gore, G. D.
McKnight, Dana I.
Schless, J. T.
Wight, Raulin B.
Elgin
Joseph, Marvin M.
Salerno, Paul G.
Wade, James C.
Elmhurst
McClatchie, K. I.
Warren, Alexander
Evanston
Bergslien, Robert M.
Bigelow, Royal G.
Eshbach, Ovid W.
Goodman, Edwin M.
Hallquist, Gunnar C.
Hauslein, Harold F. W.
Henness, Charles F.
Hillman, F. W.
Hooper, Wm. T., Jr.
Jones, Edward Lindley
Lusher, Miles H.
Mercier, Fernand E.
Nethercut, Edgar S.
Nienaber, Theo. G.

Peterson, C. T., Jr.
 Purcell, Theodore V.
 Schmidt, Norman E.
 Schweitzer, Wm. E.
 Warner, William H.
 Whitton, A. Wm.
 Wiese, Ralph A.

Flossmoor
 Brumley, Daniel J.

Forest Park
 Tomczak, Casimir A.

Franklin Park
 Coe, Russell H.

Genoa
 Safarik, Edgar R.

Glencoe
 Ellis, Holbert W.
 Everly, Robert E.
 Haynes, Charles G.
 Moosbrugger, Frank J.

Great Lakes
 Thornton, W. E.

Grays Lake
 Clyde, Andrew J.
 Schroeder, Bernhard

Griggsville
 Craig, L. C.

Harvey
 Boye, Max Richard
 Conger, Jacque B.
 Rossate, Jack S.
 Wilkins, Dean C.

Highland Park
 Fucik, E. James
 Jones, Roy E.
 Weeks, Edward L.

Highwood
 Smith, Dwight L.

Hinsdale
 Hopkins, R. S.
 Purdy, Chester A.
 Trees, George S.

Joliet
 Anderson, J. B.
 Bailey, George G.
 Bates, Walter A., Sr.
 Bates, Walter A., Jr.
 Hieronymus, John W.
 Masters, Frank H.
 Richards, Norman J.

Kankakee
 Plambeck, Wm. F.
 Young, R. E.

Kenilworth
 Kinney, Wm. M.
 Osborn, C. M.

LaGrange
 Blickensderfer, Joseph W.
 Bunker, G. T.
 Coffey, Elmer W.
 Ferguson, Farley S.
 Flook, Lyman R.
 Greasley, Clarence
 Hayes, Robert D.
 Jeffries, F. L.

LaGrange Park
 Rose, Wm. E.

Libertyville
 Day, D. W.
 Druhan, John L.
 Hoyle, Robert L.
 Leadbetter, Ralph L.
 Manning, W. L.
 Schmaus, Richard H.

Lincolnwood
 Weber, John P., Jr.

Lombard
 Adams, Theodore J.
 DeBoer, Herman O., Jr.
 Keith, Leigh S.
 Starbuck, Francis A.

Marseilles
 Adler, Howard R.

Maywood
 Adler, George H.
 Boeke, Arthur C.
 Clyde, John P.

Eyer, Robert F.
 Ford, Howard E.
 Fox, John P.
 Fry, O. E.
 Haynes, Albert G.
 Hendrickson, E. R.
 Hill, Ole A., Jr.
 Krohn, Howard G.
 Lockwood, L. E.
 Sherman, Thomas N.
 Tornquist, E. N.
 Wegener, E. C.
 Wood, David P.

Melrose Park
 Blix, E. T.
 Burhop, Harvey M.
 Dollinger, F. A.
 Smith, Austin W.
 Wilson, Alexander L.

Mendota
 Field, Edward A., Jr.

Morton Grove
 Bouse, Edward J.
 Dopp, Kenneth T.
 Gossett, E. J.

Mt. Prospect
 Clifford, Dell G.
 Essington, Harry M.

Naperville
 Quilty, T. Frank

Normal
 King, P. W.

Northbrook
 Schweitzer, Edmund O.

Oak Park
 Anderson, Emil N.
 Bird, Samuel E.
 Born, Paul L.
 Burns, James J.
 Condron, Theodore Lincoln
 Fowler, Myron M.
 Gansslen, H.
 Gilman, Turner W.
 Harris, H. A.
 Hoffer, Wesley E.
 Larson, Peter L.
 Markle, M. G.
 Morrison, R. J.
 Morrow, F. E.
 Ricefield, Louis
 Rogers, Fred A.
 Roth, Edward F.
 Schwalm, Harold E.
 Sherman, LeRoy K.
 Snook, Wilbur L.
 Stauss, Raymond O.
 Thorsen, Garry T.
 Tingley, E. M.

Oswego
 McLaren, Lewis L.

Ottawa
 Harger, Kendrick

Park Ridge
 Dore, Arthur J.
 Hand, Geo. W.
 Towle, James H.
 Vose, Richard H.

Pekin
 Bentz, George W.

Peoria
 Frost, Oscar
 Harman, Jacob A.
 McHugh, C. G.
 Wallace, Dwain M.
 Wendell, Everett J.

Quincy
 Gerdes, William F.

River Forest
 Werlich, Julius F.

River Grove
 De Wolfe, Edward C.
 Merkelz, Frank W.

Riverside
 Anderson, H. A.
 Bangs, Edward H.
 Darrow, Frank T.

Rockford
 Egeland, R.

Skokie
 Leaming, Earl K.
 Rian, L. Nordlow
 Woselowsky, George S.

Springfield
 Jenkins, Carter
 Lundgren, Victor
 Macklin, Charles
 Marquardt, J. Walter
 Nankivil, R. M.
 Polk, Wesley W.
 Ruggles, W. S., Jr.
 Wells, E. Roy

Streator
 Severson, Norman

Urbana
 Draffin, Jasper O.
 Ekblaw, George E.
 Enger, Melvin L.
 Gerber, Winfred D.
 Huntington, W. C.
 Leighton, M. M.
 Paine, Ellery B.
 Richart, Frank E.
 Wilson, W. M.

Waukegan
 Banta, John S.
 Conover, Albert W.
 Genkinger, Herman N.
 Lewis, Raymond L.
 Sevin, Eugene

West McHenry
 Mauch, Norbert B.

Wheaton
 Cosley, Harvey H.
 Dolgos, Joseph J.
 Duner, Joseph A.
 Elfstrom, Philip R.
 Kunze, J. R.
 Otto, Harold W.
 St. Pierre, Lowell C.
 Sommerfield, Sumner S.
 Stickney, G. W.
 Webster, Arthur L.
 Webster, E. E., III

Wilmette
 Huffman, F. C.
 Lawrence, Clara E.
 Lempke, W. J., Jr.
 Reichmann, Albert
 Rice, Ralph H.
 Shaw, Walter A.
 Smith, Earl J.
 Tideman, S. N.

Winnetka
 Adams, Luther
 Anderson, Robert L.
 Arens, Albert H.
 Haugland, Sigurd
 Kurtz, W. O.
 Riley, Maynard H.
 Woolhiser, H. L.

Zion
 Mattausch, Frank A.
 Medbery, Edward W.

INDIANA

Chesterton
 Hempelmann, Walter L.

East Chicago
 Ferguson, Lester M.
 Galandak, John
 Irwin, Henry
 Lynn, C. V.
 Madden, Lawrence
 Palmquist, D. W.
 Perry, W. A.
 Rhoades, Dwight R.
 Sale, Frank A.
 Schroeder, Serva
 Weinstein, Norman
 Young, J. L.

Ft. Wayne
 Iverson, Dan J.

Gary
 Atkins, Dale B.
 Barnes, Harold I.
 Bigelow, Lawrence N.
 Blair, George R.

Geographical

Gary (Cont'd.)

Blair, James H.
Friedlaender, W. V.
Hesky, Edward A.
Highly, Frank M.
Kaar, Howard W.
Kreller, R. A.
Leeper, Marvin T.
Mathews, W. W.
Metzger, Clifton J.
Rossiter, Glenn A.
Ruchti, Graham
Snepp, Karl M.
Wilkinson, Walter

Hammond

Frederick, F. G.
Hess, F. A.
McMinds, Peter J.
Seely, Ray
Zacher, Clarence H. R.

Indianapolis

Benson, Allen A.

Muncie

Cutler, Byron H.

Munster

Porter, Warren E.

South Bend

Olschewsky, Val

Whiting

Gilman, Brice E.
Newling, Lawrence H.

IOWA

Ames

Gilkey, H. J.

Boone

Thomas, M. E.

Burlington

Orr, Frank L.
Shortess, Edwin S., Jr.

Cedar Rapids

Bochman, B. E.
Farrell, Fred

Centerville

Hall, Merton G.

Dubuque

Danielson, F. D.

Iowa City

Phillips, Raymond J.

Mason City

Dike, Chester T.

Morgan City

Skillman, John E.

Osceola

Wilde, Richard D.

Traer

Townsend, Paul J.

LOUISIANA

Hammond

Johnson, Maro

MARYLAND

Aberdeen

Jackson, D. C., Jr.

College Park

Just, James W.

Frederick

Busch, Joseph Sherman

MASSACHUSETTS

Baltimore

Mueller, Philip R.

Boston

Foster, Edmond R.
Plummer, R. L., Jr.

Devens

Morse, C. A.

Hyannis

Hatch, William E.

Mattapoisett

Hiller, Joseph L.

MICHIGAN

Benton Harbor

Williams, Albert P.

Buelah

Hammer, Mahlon J.

Detroit

Cudy, Ralph R.
Gauthier, William D.
Johnson, Wilbur C.
Mulrenin, John J.

Fennville

Paine, Clifford E.

Marquette

Myers, Walter J.

Vicksburg

Ronningen, Helmer A.

MINNESOTA

Minneapolis

Basler, George R.
Jusenius, Fred H.
Shybekay, Derso S.

Thief River Falls

Schreiner, John E.

MISSOURI

Kansas City

Ahlskog, Edwin

Macon

Barber, J. D.

St. Louis

Compton, Arthur Holly
Dose, Henry F.
Elliot, Jefferson B.
Knehans, Wm. H.
Penn, Harry J.
Schad, Eugene F.
Wheeler, William C.

St. Joseph

Bechtolt, P. Robert

NEBRASKA

Norfolk

Colvin, Albert A.
Walling, R. A.

NEVADA

Reno

Boardman, Horace P.

NEW JERSEY

Atlantic City

Tyrrell, W. J.

Berlin

Shuman, E. C.

Harrison

Muir, Herbert H.

Kearny

Johnson, Norman A.
Townsend, Harvard C.

Newark

Bettle, W. H.

Princeton

Sloan, William G.

Westfield

Swenson, Edwin H.

NEW MEXICO

Albuquerque

Morse, Ted B.
Sarney, Richard A.

Los Alamos

Hohner, Fred W.

Socorro

Koch, Albert A.

Springer

Lalla, George J.

NEW YORK

Dexter

Riihimaa, Wm. A.

Elmira

Riggen, Theodore K.

Flushing

Eppel, Simeon L.

Hollis

Knowlton, Elwin C.

Ilion

Johnson, Eldon A.

New York City

Beal, Henry C.
Bottrill, David Hugh
Brinckerhoff, Henry M.
Dixon, Marvin H.
Hillis, George C.
Hirth, Raymond C.
Lamb, Carter H.

Landry, George A.
Luce, Arthur T.
McCullough, W. T., Jr.
McDermott, Thomas A.
McKinzie, D. J.
Marr, Gilbert
Merriman, Chester F.
Schad, James A.
Shumway, Noble C.
Snowdon, Edward N.
Trent, Elmer J.
Wass, John, Jr.
Weber, Carl

Rensselaer

Schilling, Henry

Schenectady

Bushman, Andrew K.

Staten Island

Wittlinger, Carl A.

Watertown

Sillcox, Lewis K.

NEW HAMPSHIRE

Manchester

Floto, Julius

NORTH CAROLINA

Durham

Daniel, T. H.

Greenville

Armstrong, L. W.

Raleigh

Pfanz, Erne

OHIO

Cleveland

Eaton, George S.
King, Alexander J.

Columbus

Kendrick, John F.

Dayton

Budnick, C. A.
Rosing, Anton S.

Lucasville

Goodman, Hal W.

Mansfield

Mulvanny, John J.

Portsmouth

Oseth, Howard T.

Zanesville

Rutherford, Marvin H.

OKLAHOMA

Stillwater

Huddle, Robert W.

Tulsa

Ball, John C.

OREGON

Portland

Stoyanov, Alex

PENNSYLVANIA

Bethlehem

Hazard, W. A.

Doylestown

Wray, David C.

Erie

Engh, Harry M.
Hoffman, Leonard M.

Lancaster

Alven, Alfons
Mayo, Robert S.

Philadelphia

Dangremond, L. M. G.
Hellsen, Karl E. W.
Leardi, Thomas J.

Pittsburgh

Frandsen, N. P.
Hodtum, Joseph B.
Kellenberger, K. E.
Lucas, Fred H.
Marvin, Arthur S.
Richter, Harry P.
Schlesinger, Max

Pottsville

Beisel, N. J.

Wayne

Zeising, Henry H.

PHILIPPINES

Manila

Mahoney, Harry P.

PUERTO RICO

San Juan
de Ayala, Jose R.

RHODE ISLAND

Providence
Graham, Donald M.

SOUTH CAROLINA

Glenn Springs
Smith, Walter M.
Greenville
Miller, Edward A.

SOUTH DAKOTA

Huron
Harmer, L. S.

TENNESSEE

Nashville
Dahlgren, William J.
Reichle, F. G.
Oak Ridge
Fairhall, W. M.

TEXAS

El Paso
Hugg, Harlan H.
Ft. Worth
Mooney, J. R.
Freeport
Wetherell, Dwight N.
Houston
Keeland, James W.
San Benito
Andersen, Mads C.
Weslaco
Smith, R. C.

UTAH

Ogden
Quinn, Horace A.

VENEZUELA

Caracas
Vinet, Eugene

VIRGIN ISLANDS

St. Thomas
Duke, Charles S.

VIRGINIA

Arlington
Kovarik, Jerome H.
Hampton
Scott, W. Kenneth
Norfolk
Johnson, B. A.

WASHINGTON

Bellevue
Heald, James M.
Spokane
Zaiser, Earl E.
Tacoma
Broussard, Joseph

WISCONSIN

Fox Lake
Steffa, Homer
Hartford
Neveling, Aloys, Sr.
Madison
Hunt, Henry J.
Manitowoc
Weber, Emil A.
Milwaukee
Drought, Orville H.
Guillemin, Victor
Holmquest, Harold, Jr.
Knuth, E. C.
McGlade, Leo
Morris, John A.
Nelson, Morris O.
Oshkosh
Fowler, Edwin
Waukesha
Latimer, George T.

Canons of Ethics

Formulated by the Engineers' Council for Professional Development, and adopted by the Board of Direction of the Western Society of Engineers, November, 1948. Also adopted by the following national societies:

American Institute of Consulting Engineers, American Institute of Electrical Engineers, American Institute of Industrial Engineers, American Society of Civil Engineers, American Society for Engineering Education, American Society of Mechanical Engineers, as well as many local organizations in various cities and states.

Honesty, justice and courtesy form a moral philosophy which, associated with mutual interest among men, constitutes the foundation of ethics. The engineer should recognize such a standard, not in passive observance, but as a set of dynamic principles guiding his conduct and way of life. It is his duty to practice his profession according to these Canons of Ethics.

As the keystone of professional conduct is integrity, the engineer will discharge his duties with fidelity to the public, his employers and clients, and with fairness and impartiality to all. It is his duty to interest himself in public welfare, and to be ready to apply his special knowledge for the benefit of mankind. He should uphold the honor and dignity of his profession and avoid association with any enterprise of questionable character. In his dealings with fellow engineers he should be fair and tolerant.

Professional Life

Sec. 1. The engineer will cooperate in extending the effectiveness of the engineering profession by interchanging information and experience with other engineers and students and by contributing to the work of engineering societies, schools and the scientific and engineering press.

Sec. 2. He will not advertise his work or merit in a self-laudatory manner, and he will avoid all conduct or practice likely to discredit or do injury to the dignity and honor of his profession.

Relations with the Public

Sec. 3. The engineer will endeavor to extend public knowledge of engineering, and will discourage the spreading of untrue, unfair and exaggerated statements regarding engineering.

Sec. 4. He will have due regard for the safety of life and health of public and employees who may be affected by the work for which he is responsible.

Sec. 5. He will express an opinion only when it is founded on

adequate knowledge and honest conviction while he is serving as a witness before a court, commission or other tribunal.

Sec. 6. He will not issue ex parte statements, criticisms or arguments on matters connected with public policy which are inspired or paid for by private interests, unless he indicates on whose behalf he is making the statement.

Sec. 7. He will refrain from expressing publicly an opinion on an engineering subject unless he is informed as to the facts relating thereto.

Relations with Clients and Employers

Sec. 8. The engineer will act in professional matters for each client or employer as a faithful agent or trustee.

Sec. 9. He will act with fairness and justice between his client or employer and the contractor when dealing with contracts.

Sec. 10. He will make his status clear to his client or employer before undertaking an engagement if he may be called upon to decide on the use of inventions, apparatus, or any other thing in which he may have a financial interest.

Sec. 11. He will guard against conditions that are dangerous or threatening to life, limb or property on work for which he is responsible, or if he is not responsible, will promptly call such conditions to the attention of those who are responsible.

Sec. 12. He will present clearly the consequences to be expected from deviation proposed if his engineering judgment is overruled by non-technical authority in cases where he is responsible for the technical adequacy of engineering work.

Sec. 13. He will engage, or advise his client or employer to engage, and he will cooperate with, other experts and specialists when-

(Continued on Page 56)

Canons of Ethics

(Continued from Page 57)

ever the client's or employer's interests are best served by such service.

Sec. 14. He will disclose no information concerning the business affairs or technical processes of clients or employers without their consent.

Sec. 15. He will not accept compensation, financial or otherwise, from more than one interested party for the same service, or for services pertaining to the same work, without the consent of all interested parties.

Sec. 16. He will not accept commissions or allowances, directly or indirectly, from contractors or other parties dealing with his client or employer in connection with work for which he is responsible.

Sec. 17. He will not be financially interested in the bids as or of a contractor on competitive work for which he is employed as an engineer unless he has the consent of his client or employer.

Sec. 18. He will promptly disclose to his client or employer any

interest in a business which may compete with or affect the business of his client or employer. He will not allow an interest in any business to affect his decision regarding engineering work for which he is employed, or which he may be called upon to perform.

Relations with Engineers

Sec. 19. The engineer will endeavor to protect the engineering profession collectively and individually from misrepresentation and misunderstanding.

Sec. 20. He will take care that credit for engineering work is given to those to whom credit is properly due.

Sec. 21. He will uphold the principle of appropriate and adequate compensation for those engaged in engineering work, including those in subordinate capacities, as being in the public interest and maintaining the standards of the profession.

Sec. 22. He will endeavor to provide opportunity for the professional development and advancement of engineers in his employ.

Sec. 23. He will not directly or indirectly injure the professional reputation, prospects or practice

of another engineer. However, if he considers that an engineer is guilty of unethical, illegal or unfair practice, he will present the information to the proper authority for action.

Sec. 24. He will exercise due restraint in criticizing another engineer's work in public, recognizing the fact that the engineering societies and the engineering press provide the proper forum for technical discussions and criticism.

Sec. 25. He will not try to supplant another engineer in a particular employment after becoming aware that definite steps have been taken toward the other's employment.

Sec. 26. He will not compete with another engineer on the basis of charges for work by underbidding, through reducing his normal fees after having been informed of the charges named by the other.

Sec. 27. He will not use the advantages of a salaried position to compete unfairly with another engineer.

Sec. 28. He will not become associate in responsibility for work with engineers who do not conform to ethical practices.

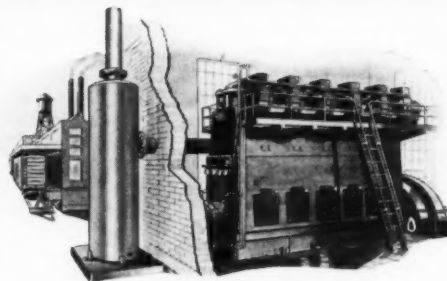
PUMP PRIMING EQUIPMENT AND AIR RELEASE VALVES

APCO Tank Primers
V-APCO Vacuum Primers
APCO Air Release Valves

25 Years of Service
to
Engineers
and
Industry

Valve & Primer Corp.

127 N. Dearborn St.
Chicago 2, Ill.



SNUB THE SLUG and STOP THE NOISE

Noise from engines, compressors, blowers, and vacuum pumps can be prevented by using Burgess-Manning Snubbers. The Snubber prevents noise by smoothing the intake air and dissipating the energy in the exhaust gas slugs, providing quiet operation without affecting performance.

The Burgess-Manning line consists of air intake and exhaust Snubbers and Combination Air Intake Cleaner-Snubbers for use on internal combustion engines, compressors, blowers, and vacuum pumps. For solution of your noise problems, consult the Burgess-Manning Engineers.

BURGESS-MANNING COMPANY
749-W East Park Avenue, Libertyville, Illinois

Business Association of Members

- Abell-Howe Co.**
 Haeger, M. O.
Aberdeen Proving Ground
 Jackson, D. C., Jr.
Ace Foundry Co.
 Roth, Edward N.
Acme Steel Co.
 Knoebel, Alfred J.
 Lozins, Neal G.
 Persson, Carl
Advance Transformer Co.
 Epstein, Hirsch
Aeronautical University
 Burroughs, Kenneth L.
Ahlberg Bearing Company
 Klimczak, Ernest J.
 Mickiewicz, Stanley R.
 Nelson, Charles, Jr.
 Parke, Stanley F.
 Schmidt, Casper N.
Ahlskog, Edwin
Alabama, University of
 McElhiney, M. Milo
Alden Co., Vern E.
 Albert, Edward R.
 Alden, Vern E.
 Andersen, Charles H.
 Beranek, Lloyd L.
 Cebrynski, Henry J.
 Cooke, Robert E.
 Junkins, John N.
 Koepke, Herman F.
 Larsen, Peter M.
 Rasmussen, R. J.
 Schlinz, Herman W.
 Soderholm, A. C.
 Wadsworth, W. J.
 Wickstrom, George, Sr.
Aldis & Co.
 Hieronymus, Rex E.
Alexander & Co., W. A.
 Reutter, Carl J.
Allen Manufacturing Co., W. D.
 O'Brien, W. P.
Allied Structural Steel Co.
 Paulson, Roy A.
Allied, Chemical & Dye Corp.
 Keller, Robert W.
Allis-Chalmers Mfg. Co.
 Hodtun, Joseph B.
Altec Service Corp.
 Brown, S. K.
Aluminum Cooking Utensil Co., The
 Koe, George A.
Alvord, Burdick & Howson
 Burdick, Chas. B.
 Howson, Arthur W.
 Howson, Louis R.
 Kneer, Vernon R.
 McDonald, R. I.
American Asphalt Paving Co.
 White, Donald O.
American Brake Shoe Co.
 Dailey, Eugene E.
 Godfrey, Charles E.
 Habel, B. Ralph
 Hutchins, John S.
 Magnus, Oscar F.
American Bridge Co.
 Barnes, Harold I.
 Beeman, W. Francis
 Bigelow, Lawrence N.
 Blair, George R.
 Boysen, Albert P.
 Butcher, Harry Francis
 Findlater, William E.
 Goodell, Floyd K.
 Greene, William K.
 Highly, Frank M.
 Holt, Newton O.
 Hughes, Dean G.
 Jordan, Donald T.
 Kreller, R. A.
 Leeper, Marvin T.
 Linsenmaier, W. R.
 Maloney, John M.
 Marvin, Arthur S.
 Norman, Milton E.
 Olfe, Virgil M.
 Ormsby, Orville H.
 Porter, Alan A.
 Prince, Harry C.
 Rossiter, Glenn A.
 Ruchti, Graham
 Serat, George W.
 Snepp, Karl M.
 Thatcher, William M.
 Webb, C. Earl
 Wilkinson, Walter
American Can Co.
 Ladd, Chauncy H.
 Spaulding, Robert E.
American District Telegraph Co.
 Wootton, John H.
American Institute of Steel Construction, Inc.
 Penn, Henry
American Iron & Steel Institute
 Shad, James A.
American Medical Association
 Carter, Howard A.
American Railway Engineering Association
 Lacher, Walter S.
American Steel Foundries
 Cottrell, Robert B.
American Steel & Wire Co.
 King, Alexander J.
 Lewis, Raymond L.
American Structural Products Co.
 Shuman, E. C.
American Telephone Laboratories of California
 Mitzenmacher, Erwin
American Telephone & Telegraph Co.
 Carlson, Ernest A.
 McDermott, Thomas A.
 Ross, Ralph H.
American Water Works & Electric Co.
 Lamb, Carter H.
Ames Engineers
 Hodgson, John G., Jr.
Amsler-Morton Corp.
 Schlesinger, Max
Anaconda Wire & Cable Co.
 Van Valkenburg, H. V.
Anderson, Probst & White
 Maras, John
Anning-Johnson Co., Inc.
 Anning, H. E.
 Reel, Richard H.
 Wheeler, Warren C.
Appraisal Engineering Corporation
 Gutsell, L. M.
 Hugon, Henry B.
Arabian American Oil Co.
 Oddo, Dominic V.
Argonne National Laboratory
 FitzPatrick, John P.
 Flook, Lyman R.
Armour and Company
 Stickney, A. B.
Armour Research Foundation
 Heeren, Martin H.
 Hopley, (Miss) R. M.
 Miller, Kenneth W.
 White, H. G. R.
Armstrong, H. G.
Armstrong Co., W. Scott
 Armstrong, W. Scott
Askania Regulator Co.
 Connor Ronnoc H.
Association of American Railroads
 Ruble, Emerson J.
Atchison, Topeka & Santa Fe Ry. Co.
 Dansey, James W.
 Mitchell, A. R.
 Parkinson, James A.
Atlas Tool Engineering Co.
 Martinsson, Gunnar R. C.
Austin Co., The
 Ferguson, Farley S.
 Logan, Howard
Automatic Canteen Co.
 Morgan, F. M.
Automatic Electric Co.
 Fowler, Ralph R.
 Gerba, Alex, Jr.
 Graybill, K. W.
 Hershey, Harry E.
 King, Raymond B.
 Kreml, Frank
 Lomax, C. E.
 McCreary, Harold J.
 Mote, Thomas H.
 Ostline, John E.
 Perkins, W. H.
 Woodruff, Albert E.
Automatic Electric Laboratories, Inc.
 Smith, Arthur B.
Automatic Electric Sales Corp.
 James, Virgil E.
 Ruggles, Leonard L.
 Sorber, Gilbert
Automatic Sprinkler Co.
 Hauth, Chester W.
Aviation Screw Products Co.
 Hollander, George J.
Babcock & Wilcox Co., The
 Behr, Ralph K.
 Dring, George W.
 Gore, Leonard E.
 Hoban, Charles O.
 McCullough, W. T., Jr.
 Melnick, Timothy
 Szypulski, Henry M.
Bacon & Co., R. H.
 Bacon, R. H.
Baehr Organization, Inc., William A.
 Spillet, William D.
Bain, A. J.
Balkin Builders, Inc., L.
 Balkin, Louis
 Balkin, Stuart
Baltimore & Ohio Chicago Terminal R. R.
 Mueller, Philip R.
 Palmer, Guy P.
Barco Mfg. Co.
 Brown, Joseph Henry
Bates Company, Inc., Walter
 Bates, Walter A., Sr.
 Bates, Walter A., Jr.
Bates & Rogers Construction Corp.
 Rogers, Lester C.
Batthey & Childs
 Batthey, Paul L.
 Childs, Leonard C.
 Reisse, Donald H.
 Wier, Robert J.
Bauer and Black
 Hoeglund, K. C.
 Mabie, Don C.
Beardsley & Piper
 Hermansen, Henry M.

Business

Bearings Company of America
Alven, Alfons

Bell & Gossett Co.
Bouse, Edward J.
Dopp, Kenneth T.
Gossett, E. J.

Bell & Howell Co.
Weber, John P., Jr.

Bendy, W. R.
Elliot, Jefferson B.

Benjamin Electric Mfg. Co.
Vavrinek, LeRoy J.

Benz Co., C. W.
Benz, Carl W.

Berkenblit, S. E.

Berthold Electric Co., Gus
Berthold, Russell E.

Beverley & Ruddock
Appleby, Joseph, Jr.
Ruddock, Raymond

Biggs Construction Co.
Biggs, E. James

Billow Corporation
Billow, Elmer E., Jr.

Bird, Samuel E.

Bjorksten Research Laboratories
Bjorksten, Johan A.

Bloedel, Stewart & Welch, Ltd.
Simons, Howard A.

Board of Supervising Engineers
Fry, August J.

Boddy-McKnight Co.
McKnight, Dana I.

Booz, Allen & Hamilton
Cook, Gordon
Coulter, Thomas H.
Humphrey, Stanley M.

Bosch Co., Henry
Cox, Claude E.

Boynton & Co., A. J.
Auscher, Albert
Becker, Donald N.
Benson, Earle G.

Breese Burners, Inc.
Lair, Jack R.

Broderick & Bascom Rope Co.
Schad, Eugene F.

Brooks, Chason W.

Brown, Jackson, Boettcher & Dienner
Dienner, John A.

Buck Electrical Contractors
Mayer, Anton J.

Bucyrus Erie Co.—Monghan Division
Ballinger, Walter E.
Grundvig, K. E.

Buda Co., The
Conger, Jacques B.

Bueter & Wolff, Inc.
Simpson, John R.
Wolff, Edward J.

Bulley & Andrews
Bulley, Allan E.
Peterson, F. E.

Burgess-Manning Company
Chipley, Alfred S.
Day, D. W.
Hoyle, Robert L.
Leadbetter, Ralph L.
Manning, W. L.
Schmaus, Richard H.

Burke, Ralph H.
Boot, George W.
Burke, Ralph H.
Glick, J. Robert
Jelinek, Otto K.
Krass, Hyman H.
Madgouranis, George C.
Rogers, Paul
Towle, James H.
Young, Hugh E.

Burlington Instrument Co.
Shortess, Edwin S., Jr.

Burnham & Hammond, Inc.
Brown, Ray C.

Business Research Corp.
Davis, Louis R.

Brussel & Viterbo
Brussel, Hugues

Butler Bros.
Lawson, Russell L.

Byers Co., A. M.
Merrill, Jed J.

C-S Engineering Co.
Ruggles, W. S., Jr.

California State Polytechnic Institute
Reece, R. H.

California, University of
Morse, Ted B.

Calumet Iron & Supply Co.
Weinstein, Norman

Campbell-Lowrie-Lautermilch Corp.
Slygh, Edward J.

Campbell, F. D.
Kramer, Robert

Cargill, Inc.
Basler, Geo. R.

Carnegie-Illinois Steel Corp.
Atkins, Dale B.
Guyann, N. P.
Humiston, John F.
Jordan, Robert B.
Koeberle, Harold J.
Lucas, Fred H.
Pearson, Elmer I.
Richter, Harry P.
Steitz, Carl G.

Carr and Wright, Inc.
Strazz, Anthony J.

Carter, Edw. F.

Casey & Emmert, Inc.
Emmert, Roy W.

Caspers Tin Plate Co.
Darling, Paul W.
Domville, Charles H., Jr.
Ghiselli, Wm. A., Jr.

Cast Iron Pipe Research Association
Wolfe, Thomas F.

Catholic Cemeteries, The
Dunn, Andrew C.

Ceco Steel Products Corp.
Bagnard, Ernest A.

Central Manufacturing District
Swenson, Edwin H.

Central Steel & Wire Co.
Smith, Walter E.

Champion Lamp Works
Fuller, D. William

Chemical Fireproofing Corp.
Brelie, George A.

Cheney, Seymour W.

Cherry-Burrell Corp.
Bixby, Griffith S.

Chicago Aerial Survey Co.
Graf, William, Jr.

Chicago Association of Commerce and Industry
Querl, Paul E.

Chicago Athletic Association
Euler, Fred C.

Chicago, Aurora & Elgin R. R.
Elfstrom, Philip R.

Chicago, Bridge & Iron Co.
Boardman, Horace P.
Goldsby, Fred L.
Green, Ralph
Hendren, Robert F.
McDonald, Lewis
McGrath, Raymond V.
Michaels, Ernest E.
Moyer, Fred D.
Pillsbury, C. S.
Simpson, Arthur R.
Thomas, Frank P.
Trees, Merle J.

Chicago, Burlington & Quincy R. R.
Budd, Ralph
Clarke, Herbert R.
Hasselbacher, H. H.

Olsen, Roy A.
Peterson, J. E.
Twichell, Howard W.

Chicago, City of
(Miscellaneous)
Blanchard, Murray
Chambers, Connor John
DeBerard, W. W.
Gaensslen, Carl A.
Gordon, F. G.
Gross, Ralph F.
Hagedorn, Harry P.
Haldeman, Walter S.
Jardine, James W.
Jeppesen, Gunni
Kaindl, Arthur M.
Kobylanski, Jos. L.
Mason, William Caton
Michel, Ralph F.
Randall, Edwin A.

Bridges, Bureau of
Arvites, George D.
Hall, Chas. F.

Education, Board of
Farrelly, Joseph L.
Uitti, George I.
Wood, Stephen G.

Examiners, Board of
Todd, Samuel R.

Park District
Ball, C. E.
Bilek, Robert F.
Bridges, Joseph L.
Cunnea, Jos. P.
Fencil, Richard G.
Fosco, Harold R.
Hofer, Victor G.
Hupp, Vernon E.
Jolesch, Walter L.
Knapp, Raymond S.
Krag, Mathew
Page, Peter M.
Peck, Henry C.
Walker, Harry
Williamson, Harold W.

Public Works, Dept. of
Baylis, John R.
Downes, Wm. E., Jr.
Klecka, Joseph
Taylor, Orin H.

Sewers, Bureau of
Dartsch, F. A. L.
Eilers, Baldwin C.
Ford, Tenney S.
Miller, Gail L.
Poole, Frederick M.
Schafmayer, A. J.
Tholin, Albert L.

Streets, Bureau of
Fixmer, H. J.
Supple, Leo E.

Subways & Superhighways, Dept. of
Gunlock, Virgil E.
Howard, Edwin A.
Jackson, George L.
Jelinek, Ernest
Koebele, C. W.
Lagerstrom, Harry
McKenney, James R.
Obert, David L.
Peterson, A. R.
Post, Clifford W.
Rasmus, Walter E.
Reiter, Edward L.
Solheim, Peter J. M.
Stoos, Joseph A.
Trinkaus, Geo. J.
Van Gorp, Dick
Van Zelst, Theo W.
Vetterick, Arthur C.
Wagner, Harvey F.
Wardle, Andrew N.
Welton, Kenneth G.

Water Works Design, Division of
Kohout, George W.
Chicago Electric Engineering Co.
Holubow, Harry

- Chicago Eye Shield Co.
Whipple, Willis Z.
- Chicago Housing Authority
Ashwell, Iris
Horneman, Beatrice C.
Shaw, Howard D.
- Chicago, Milwaukee, St. Paul &
Pacific R. R. Co.
Kaufman, Morris B.
O'Brien, Kenneth W.
- Chicago Motor Club
Sielski, Matthew C.
- Chicago, North Shore & Milwaukee R. R.
Pickens, Reo N.
Smith, Dwight L.
- Chicago & North Western Ry.
Colvin, Albert A.
Harris, Arthur R.
Madson, Howard C.
- Chicago Plan Commission
Oneal, Claire E.
- Chicago Pump Co.
Spiegel, Milton
- Chicago Regional Planning Association
Fischer, Paul O.
Olson, Howard R.
- Chicago River & Indiana R. R. Co.—
Indiana Harbor Belt R. R.
Hess, F. A.
- Chicago Rock Island & Pacific
Railroad Co.
Hughes, Lorne J.
- Chicago Steel Foundry Co.
Becker, August E.
Garrison, Chas. K.
- Chicago Transit Authority
Butts, Charles A.
Doering, Heinz G.
Fallon, Bernard J.
Gerber, Arthur U.
Guy, Erven M.
Harrington, Philip
Helmer, Walter S.
Howell, Horace L.
Imhoff, Eldon A.
Johnson, Harley A.
Keiser, Charles E.
Kendall, R. G.
Krambles, George
Marston, W. R.
Nelson, George W.
O'Connor, Thomas B.
Petersen, H. G.
Potter, C. R.
Reichard, Lester H.
Ruzich, John L.
Shanklin, R. J.
Traiser, L. M.
Wade, Reginald N.
Wolf, C. Walter
Worcester, Donald H.
- Chicago & Western Indiana Railroad Co.
and The Belt Ry. Co. of Chicago
Walling, V. R.
- Chicago Technical College
Knudsen, Harold B.
Ottoman, Edward, Jr.
Morey, Charles W.
- Chicago, University of
Christy, Andrew
Morison, James R.
- Chicago & Western Indiana R. R.
Beutler, Frank E.
- Childs & Smith, Architects
Seidensticker, F. W.
- Chrysler Corp.
Gauthier, William D.
- Cierling Steer Works
Vierling, Robert L.
- City Coal & Coke Co.
Ephgrave, John O.
- Civil Aeronautics Administration
Dore, Arthur J.
- Clabby, James H.
- Clare & Co., C. P.
Sipp, Thurman L.
- Clark, Horace H.
- Clary, H. D.
Lund, E. Vera
- Clay Products Association
Scott, Robert G.
- Clearing Industrial District, Inc.
Heckel, Ervin J.
- Clearing Machine Corp.
Semaitis, Albert
- Coats & Burchard Co.
Ward, James J.
- Coffey, Elmer W.
- Columbia Engineering Co.
Warshaw, Milton
- Combustion Engineering Co., Inc.
Hensel, Frederick C.
Park, William M.
- Commonwealth Edison Co.
Abbott, F. J.
Ahlstrom, Walter
Anderson, Oscar E.
Applequist, Fred V.
Armbrust, George M.
Asherman, Albert A.
Bailey, Alex D.
Bakken, Arne S.
Baldwin, John N.
Bank, Martin L.
Baring, John W.
Barmack, B. J.
Barr, Frank C.
Bauer, Conrad A.
Bauerschmidt, G. L.
Behrens, William J.
Bethel, Robert L.
Boyer, Quinn O.
Bronski, Chester R.
Bruhns, Edward C.
Buehler, Robert M.
Bugeon, Russell E.
Bushnell, Robert J.
Byrd, Porter J.
Carver, Francis T.
Chambers, Lynton H.
Clayton, J. Paul
Compton, G. R.
Cuny, Howard J.
Curtis, John R., Jr.
Davis, Abraham
Davis, John I.
Davis, Waldo E.
Dinsdale, Davis A.
D'Olive, Eugene R.
Doyle, Thomas M.
Elliott, Wallace W.
Engquist, E. B.
Ewald, Leonard E.
Fenton, Lewis T.
Ferguson, Louis A., Jr.
Fitch, James C.
Gallicchio, Frank V.
Gallup, Benton B.
Gibson, Floyd D.
Golightly, Russell H.
Goodell, Stanley E.
Grant, Richard J.
Green, George E.
Gustavsson, G. E.
Halperin, Herman
Hampe, George W.
Harris, Alfred E.
Hayburn, Thomas F.
Heard, George W.
Hedstrom, Paul L.
Henneman, F. G.
Herschbach, Carl F.
Heuman, Carl L.
Hinch, Ralph L.
Hoff, Herbert C.
Holm, Gustave R.
Horner, Kenneth R.
Jehlicka, Ludvik J.
Johnson, Dellmar G.
Johnson, Frederick B.
Jorgensen, Axel C.
Jorgensen, George L.
Kawiecki, Chester J.
- Kayser, Harry C.
Kilstofte, Irving N.
Kenney, Lowell K.
Knecht, Walter G.
Lantz, Lawrence L.
Larsen, A. B.
Larsen, Olav R.
LeClair, Titus G.
Lewis, Thomas P.
Lynskey, J. Philip
Lyon, Earle D.
McArthur, Billings M.
McCallum, Verne E.
McElroy, Claud E.
Magee, Carl T.
Maywald, Leroy
Milligan, Leslie W.
Mitchell, Chester F.
Montgomery, Martin W.
Mueller, Fred G.
Munster, Richard A.
Nack, Leo W.
Nass, Vincent W.
Ostrander, R. M.
Parrott, John R.
Pearson, Harold T.
Petersen, M. L.
Peterson, R. S.
Pettersen, H. C.
Preschern, W. G.
Putnam, Wilton E.
Racheff, Theodore N.
Reace, Wm. T.
Rehm, Frank J.
Ritter, Albert S.
Roasa, Hubert L.
Rose, Edmund G.
Rumley, Richard L.
Runde, Edgar
Ryan, Eugene A.
Salle, W. H.
Savage, Herbert
Schaefer, James W.
Schaibly, Harold M.
Schiffer, Joseph A.
Schmidt, Ralph G.
Schuber, Joseph L.
Seamon, Richard P.
Slack, William E.
Slocum, Harold H.
Smeby, Rudolph P.
Smedley, Glenn P.
Smith, Edward R.
Smith, Harold E.
Smith, Kilburn M.
Strobeck, Roy A.
Suffka, John L.
Sullivan, John F., Jr.
Terrey, Wm. H.
Thrane, Gilman
Way, John S.
Weber, Valentine F.
Wedgwood, John L.
Wessling, Kenneth G.
Whitehead, L. E.
Wiemers, George H.
Wilde, Earle
Williams, R. E.
Williams, Stanley Ed.
Wingfield, Clarence A.
Wishard, W. W.
Wolford, Gilbert F.
Woloshin, Boris
Yexley, S. A.
Young, Leo N.
Zachary, J. L.
Zonsius, Lester J.
- Communication Equipment &
Engineering Co.
Clark, Robert A., Jr.
- Community Planners
Kincaid, Evert H.
- Conkey & Co., H. D.
Field, Edward A., Jr.
- Consolidated-Vultee Aircraft Corp.
Whitaker, John A.
- Construction Aggregates Corp.
Poppe, Charles J.

Business

Container Corp. of America

Jennings, Donn O.
Krause, Robert

Continental Can Co., Inc.

Green, Jay D.
Kohn, Robert S.
Thomas, Curtis W.
Zoeter, Homer B.

Continental Insurance Company of New York

Tingley, C. Ned

Conveyor Systems, Inc.

Koll, R. S.
Mueller, Stephen J.
May, Matthew M.

Cook County Highway Dept.

Gould, Harry
Lange, Robert N.
Lillard, Paul
Quinlan, George A.
Steinweg, Carl H.

Cook County Inspection Bureau

Reske, Elmer F.

Cook Electric Co.

Baker, J. S.
Watschke, Arthur J.
Ziebold, Eugene H.

Copper Wire Engineering Association

Sanford, Frank E.

Corboy Co., M. J.

Corboy, John A.

Corn Products Refining Co.

Phillips, Thurman A.

Crane Co.

Dopp, C. A.
Houser, A. M.
Houser, A. M., Jr.
Joyce, Joseph L.
Kliment, William P.
Kucinski, William
Lange, Joseph O.
Newman, Thomas P.
Parks, Burritt A.
Pohl, Hans E. K.

Crane Packing Company

Schmitz, Carl Edward

Crerar Library, The John

Henkle, Herman H.

Croname, Inc.

Arnet, Robert
Johnson, Russell E.

Crosby Construction & Engineering Co.

McNew, Delbert R.

Cutmore & Associates, Inc., Harry S.

Cutmore, Harry S.

Dahl, Stedman Co.

Dahl, Geo. V.
Stedman, Elmore W.

Danly, Machine Specialties, Inc.

Brizzolara, C. A.
Krauss, Robert E.

Darling & Company

Chesman, A. Lee

Davis Co., Nelson L.

Collatz, Wm.
Sayers, Robert P.

DeBoer & Associates, H. O.

DeBoer, Herman O., Jr.

Deckert Corp.

Deckert, John E.

Dee & Sons Construction Corp.

Dee, Marvin R.

DeLeuw, Cather & Co.

Anderson, Roy H.
Braff, Lloyd M.
Cather, LeRoy H.
DeLeuw, Charles E.
Dobry, L. F.
Ek, Thomas I.
Gellert, Louis W.
Hale, Edwin A.
Hugg, Harlan H.

Keith, Arthur W.
Kern, Cecil E.
Kinne, W. S., Jr.
Kutaj, Walter C.
Ritchie, James F.
Rusch, Erwin G.
VanAken, Cordon R.
Watson, Harry P.

Delta-Star Electric Co.

Beattie, C. Stuart
Sternaman, Roy A.

Design Engineering Associates

Kerr, Albert E., Jr.

Des Plaines, City of

Fletcher, E. N.

Detroit Steel Products Co.

Reilly, Lawrence E.

DeWolfe Advertising Service

DeWolfe, Edward C.

Dexter Sulphite Pulp & Paper Co.

Riihimaa, Wm. A.

Ditto, Inc.

Levin, C. A.

Dole Valve Co.

Otten, William N.

Sokolowski, John J.

Downers Grove, Village of

Baylor, C. L.

Diamond Iron Works, Inc.

Jusenius, Fred H.

Donnelley & Sons Co., R. R.

Walker, Edwin G.
Wolff, Herbert A.

Dow Chemical Co.

Wetherell, Dwight N.

Duffy, James F.

Duncan Electrical Mfg. Co.

Hewitt, Ernest E.

DuPont de Nemours & Co., E. I.

Johnson, Eldon A.

Eagle Picher Co.

Schroeder, Serva

Early Mfg. Co.

Boyajian, George E.

Economy Pumps, Inc.

Tucker, Belden S.

Ehret and Kinsey

Kinsey, John D.

Eimco Corporation, The

Richter, Paul O.

Eiserer, Adolph F.

Electric Service Mfg. Co.

Belding, L. S.

Electric Storage Battery Co.

Fitts, Joel A.

Electrical Engineers Equipment Co.

PenDell, Charles W.

Electrical Construction, Inc.

Zimmer, Walter R.

Electrolux Corp.

Weiner, R. S.

Ellington Miller Company, The

Ellington, J. F.

Elmira Electronics Corp.

Riggen, Theodore K.

Emerson-Comstock Co.

Lang, George A.

Engineering & Development Corp.

Walker, Reno R.

Engineering News-Record

Smith, Vincent B.

Epstein & Sons, A.

Brandstetter, Joseph M.
Epstein, A.

Erickson Co., Carl E.

Northquist, Ruben A.

Ericsson Company, Henry

Ericsson, Clarence E.

Ericsson, Dewey A.

Steitz, Gustave J.

Essex Wire Corp.

Rutherford, Marvin H.

Etching Company of America

Lamm, Lloyd F.

Eureka X-Ray Tube Corp.

Lange, William W.

Evanston, City of

Goodman, Edwin M.
Schmidt, Norman E.

Evanston Fuel & Material Co.

Hallquist, Gunnar C.

Excel Movie Products

Kobos, Roman L.

Fabreeka Products Co.

Bardwell, Allen E.

Factory Insurance Association

Fairburn, W. J.

Lewis, Richard J.

Fairbanks-Morse & Co.

McKamy, Paul E.

Faville-LeVally Corp.

Ellerton, George, Jr.

Faville, Frederick A.

Farrell, Fred

Federal Telephone & Radio Corp.

Dahl, Ernest A.

Felt & Tarrant Mfg. Co.

Nieman, F. A.

Fenner & Potvin

Sidney, Edward J.

Fieldcrest Mills

Medbery, Edward W.

Fireman's Fund Insurance Co.

Jens, Arthur H.

First National Bank of Chicago

Burkey, Mack G.

Flood & Co., Walter H.

Flood, Walter H.

Jaedtko, Marshall F.

Floor & Associates, Erik

Floor, Erik

Foote Bros. Gear & Machine Corp.

Strid, Oscar W.

Ford, Bacon & Davis, Inc.

Bottrill, David Hugh

Johnson, Charles A.

Loebe, Roy A.

Wright, Wm. Ryer

Foster-Wheeler Corp.

Bedell, Kenneth H.

Foth, Porath & Horner, Inc.

Horner, Harold E.

Foxboro Co.

Waters, John M.

Fraser-Brace Engineering Co., Ltd.

Brace, James Henry

Frey Engineering Co.

Ferguson, Wm. B.

Fox, E. Gordon

Schofield, Wilfred C.

Westcott, E. J.

Young, M. F.

Friedman, Alschuler & Sincere

Shuma, William F.

Fries-Walters Co.

Storey, Donald G.

Fuhrer, Eugene & Max

Caccavale, Ralph

Fuhrer, Max

Johnson, Herman G.

Fuller Co., Geo. A.

Benesek, Thomas

G & W Electric Specialty Co.

Livingston, J. M.

Papp, Andrew E.

Gallagher-O'Brien Electric Company

Cahill, John B.

Gaertner Scientific Corp., The

Meyn, Paul F.

Garden & Erikson

Dutcher, John E.

Gary Sanitary District

Mathews, W. W.

Gas Appliance Service

Koepke, Frank H.

Gawley Construction Co., Inc.

Anderson, Peter K.

Gebhardt & Son, John

Gebhardt, John W.

General American Transportation Corp.

Irwin, Henry

Wyand, John J.

General Electric Co.
 Ballenger, W. M.
 Bushman, Andrew K.
 Doerr, Charles
General Electric X-Ray
 Beaird, Robert D., III
 Holmquist, Harold J.
 Morris, John A.
General Industries, Inc.
 Madden, Lawrence M.
General Motors Corp.
 Blickensderfer, Joseph W.
 Greasley, Clarence
General Portland Cement Co.
 Bovie, Girard L.
General Survey Co.
 Montblanc, E. P.
Getz Coal Co.
 Weicker, Philip
Glencoe, Village of
 Everly, Robert E.
Goetz Elevator Co.
 Goetz, Edwin W.
GoldE Mfg. Corp.
 Golden, Milton E.
Goodman Manufacturing Co.
 Finlay, Samuel
 Goodman, William E.
 Gruoner, P. M.
 Pratt, Chas. A.
Gordon Co., Bruce A.
 Gordon, Bruce A.
 Havens, George
Gough, William I.
Graf & Son, Wm. A.
 Graf, William F.
Graham, Crowley & Associates, Inc.
 Crowley, Clyde A.
Grand Sheet Metal Works
 Streicher, Irving H.
Graver Tank & Mfg. Co., Inc.
 Behmer, William C.
 Connors, Harold C.
 Fosnot, Harold R.
 Galandak, John
 Rhoades, Dwight R.
 Ross, Herman M.
 Sale, Frank A.
Graves & Graves
 Lapp, Jack
Great Lakes Carbon Corp.
 Phelps, Marion A.
Great Lakes Dredge & Dock Co.
 Cahill, James E.
 Lydon, Eugene K.
 Nelson, Carl E.
 Schreiner, John E.
 Wohlgemuth, John F.
 Zapel, Elmer J.
 Zeman, Arthur F., Jr.
Greeley and Hansen
 Greeley, Samuel A.
Griffenhagen & Associates
 Griffenhagen, E. O.
Griffin Wheel Co.
 Ufer, H. W.
 Wolff, George E.
Griffiths & Son Construction Co., John
 Wade, J. William
 Wells, Arthur H.
Gritschke, E. R.
 Garlick, David J.
 Gritschke, E. R.
Guardian Electric Manufacturing Co.
 Obszarny, T. J.
Gurtler & Company, W. A.
 Gurtler, W. A.
Haigh & Sons Co., Joseph
 Haigh, Arthur H.
Hall Engineering Co.
 Hall, Merton G.
Hallicrafters Co., The
 Case, Nelson P.
Hamilton, George W.
Hamlin Construction Co., Peter
 O'Connor, William T.

Hannifin Corp.
 Adams, Harry H., Jr.
 Crowell, Milton E.
 Rakosnik, Frank E.
 Steen, Henry
Hansell-Elcock Co.
 Winter, Geo. R.
Hardin, George D.
Harley-Ellington & Day
 Campbell, Richard B.
Harman, Inc., Jacob A.
 Harmon, Jacob A.
 Wallace, Dwain M.
Harris Associates, Inc., John W.
 Gerlach, Howard P.
Harrison Sheet Metal Co.
 Showtis, Bruno M.
Hartford Accident Indemnity Co.
 Gallagher, John D.
Hartford Steam Boiler Inspection & Installation Co.
 Dunkelberg, Paul
Hartt, J. S.
Harza Engineering Company
 Harza, L. F.
Hattis, Robert E.
 Cook, Maurice B.
 Hattis, Robert E.
Hawkins Electric Co.
 Elliott, Ernest E.
Hayden and Company
 Hayden, Carl F.
Haynes Engineering
 Haynes, Albert G.
Hazekamp & Associates, Raymond Wm.
 Hazekamp, Raymond W.
Hazelet & Erdal
 Dahlquist, Philip L.
 Erdal, Ingolf
 Urbain, Leon D.
Healy Co., S. A.
 Baker, Irwin H.
Hebard & Co., W. F.
 Johnson, C. Roy
Hecker and Co., Inc.
 Stoler, S. B.
Hedstrom & Co.
 Carraher, Ignatius E.
Heinze Surveyors, The
 Roepke, Walter
Hendricks Engineering Corp.
 Schirmer, Robert W.
Henry Valve Co.
 Griffith, L. F.
Herlihy Mid-Continent Co.
 Barclay, Wm. O.
 Kreutzburg, Arthur R.
 Tansey, John P.
Herman & Salzman
 Salzman, Max M.
Hess Company, The
 Hess, Bryce M.
Higgins & Associates, Thomas J.
 Nielsen, Harvey C.
Hill, Cyrus G.
Hoffman Co., Robert W.
 Hess, R. Adair, Sr.
Holabird & Root & Burgee
 Barta, D. D.
 Brewer, Arthur H.
 Burgee, Joseph Zeno
 Carnahan, L. B.
 Frame, Richard P.
 Gray, Walter B.
 Hopkins, Edward J.
 Root, John W.
 Seth, George W.
Holcomb Mfg. Co., J. I.
 Kahnweiler, Deane B.
Holland, Ackerman & Holland
 Ackerman, Robert H.
Hooper Company, J. R.
 Hooper, J. R.
Houlihan & Associates, Inc.
 Wysocky, L. F.

Hubbard & Co.
 Badger, Robert E.
Hub Electric Company
 Fixman, I. M.
Hunt Co., Robert W.
 Morgan, Harold H.
 Randlett, Fred M.
Hussman, Inc., Carl
 Hussman, Carl
 Hussman, Carl, Jr.
Hygrade Food Products Corp.
 Loughlin, Michael J.
Illinois Automobile Club
 Gilruth, Jas. C.
Illinois Bell Telephone Co.
 Abmeyer, A. S.
 Adam, George H.
 Alford, Thomas E.
 Allen, Arthur G.
 Allen, C. N.
 Anderson, Joseph J.
 Andrews, Fred O.
 Arnold, George G.
 Artman, Mrs. Margaret E.
 Asmann, Edwin N.
 Aysford, L. C.
 Bailey, Melville D.
 Baumel, Ervin
 Becher, Clifford C.
 Beem, Frederick A.
 Bergstrom, Carl G.
 Bernhard, Leroy F.
 Bills, Frank B.
 Blake, Gerald H.
 Boyd, John H.
 Bragdon, Harry B.
 Brandenburg, William C.
 Brandt, John W.
 Brazelton, Roy M.
 Brewer, Leon D.
 Brice, William A.
 Brogan, Joseph E.
 Brosman, Granville P.
 Brown, Dwight L.
 Brown, E. M.
 Brown, Gordon Whipple
 Browne, Lyman L.
 Brunke, Robert R.
 Bryce, William G.
 Burchard, Wm. K.
 Buxton, Bentley
 Campbell, David, Jr.
 Carlson, Arthur C.
 Carlson, Martin F.
 Carlson, Warren W.
 Carlson, Wendell
 Carroll, Lawrence B., Jr.
 Casad, Maurice W.
 Chabala, Bernard D.
 Chinlund, Daniel K.
 Clementz, Philip J.
 Collins, Joseph F.
 Core, H. H.
 Cota, Leon A.
 Cox, Harlow A.
 Cummings, Blaine
 Cunningham, Leonard E.
 Currier, Milton G.
 Dahl, Oscar J.
 Daly, Robert J.
 Danisch, E. A.
 Davies, Frank C.
 Dehler, N. F.
 Dehr, William B.
 Dietrich, Otto A.
 Dodds, Earl B.
 Doolittle, Robert B.
 Dudley, Wilton R.
 Egeland, R.
 Elder, Clarence H.
 Enright, Neil F.
 Erickson, Donald H.
 Ericson, Rudolf T.
 Ewers, E. A.
 Fako, Paul
 Fink, M. H.
 Flinn, Walter H., Jr.
 Frangquist, E. E.

Business

Illinois Bell Telephone Co. (Cont'd.)

Freely, James A.
 Froehlich, R. S.
 Gabbard, Louis C.
 Giller, Clyde E.
 Giller, William C.
 Gordinier, Leonard L.
 Gould, G. Frederick
 Graham, Lloyd D.
 Green, DeWitt C.
 Griffiths, Kenneth J.
 Groepper, Gerald W.
 Hall, George S.
 Hanapel, Alfred J.
 Hansen, Donald W.
 Hanson, Ralph M.
 Harmas, Kearney E.
 Harmon, Robert N.
 Harrington, Stephen W.
 Hartman, John W.
 Hartsell, Theodore D.
 Havlic, A. C.
 Heaney, Thos. R., Jr.
 Heidenrich, S. G.
 Henderson, Frank B.
 Hickey, Carl R.
 Hollingsworth, F. H.
 Holzbach, Robert L.
 Hoover, Blaine, Jr.
 Hoppesch, John W.
 Howard, Kenneth J.
 Huebner, Charles A.
 Hufnagel, Walter P.
 Hughes, Robert J.
 Hullinger, R. W.
 Hurlbut, H. D., Jr.
 Iwena, Bernard
 Jackson, Chas. E.
 Jennett, Harold P.
 Johnson, Carl V.
 Johnson, Ernest H.
 Johnson, Leonard E.
 Kahler, W. V.
 Kentner, Richard D.
 King, John E.
 Kirk, Ivan M.
 Klammer, K. K.
 Kneale, Louella H.
 Knittle, Gale L.
 Knuth, Wilfred F.
 Koch, Edward C.
 Kowal, John A.
 Kreishimer, John
 Krick, Robert M.
 Ladd, James A.
 LaForce, Harry B.
 Lallier, Paul R.
 Lang, William J.
 Larson, Einar F.
 Lavigne, Hilaire J.
 Lawton, Jack W.
 LeBaron, Theodore
 Lennon, Roy R.
 Longerbeam, Charles W.
 Lowden, Virgil E.
 Lowrey, Ernest R.
 Luecker, F. A.
 Lund, A. B.
 Lyon, William D.
 McCreary, Watson B., Jr.
 McDowell, Harold L.
 McJohnston, Claude A.
 McLane, John D.
 McMinds, Peter J.
 McShane, Joseph A.
 Magnuson, H. D.
 Marsh, Edward J.
 Mason, A. W.
 Mathews, L. T.
 Medeen, Howard E.

Mee, Sherwood E.
 Meyer, John J.
 Miller, C. Marshall
 Mitchell, A. J.
 Moberg, Alfred R., Jr.
 Moore, Daniel E.
 Moore, Maurice J.
 Morrison, Ray E.
 Moseley, Raymond E.
 Murphy, Mary L.
 Murray, Arthur P.
 Neighbour, Davis J.
 Nelson, A. E.
 Neubauer, E. O.
 Nieman, Bernard K.
 Norton, O. P.
 Novotny, George F.
 Oberding, Allen J.
 O'Brien, James M.
 O'Connor, Roger R.
 Oetzell, Walter A.
 Oldenburg, Carl P.
 Olson, George E.
 O'Toole, William A.
 Ovitt, Reginald A.
 Papantony, John G.
 Parisi, Joseph C.
 Petersen, R. W.
 Peterson, Reuben F.
 Petrie, Alfred E.
 Phillips, Guy W.
 Plym, L. M.
 Pollenz, Stanley
 Pruess, Earl H.
 Ramusack, Joseph
 Reynolds, Edward T.
 Riggen, Winifred
 Rivenes, A. I.
 Roberts, John K. D.
 Roberts, John M.
 Robertson, Daniel C.
 Robinson, George G.
 Rogers, Donald E.
 Ross, George B.
 Rutter, Joseph R.
 St. Germain, Allen E.
 Salzman, W. B.
 Sandeen, Ralph A.
 Sanden, T. E.
 Schermerhorn, E. B.
 Schewe, Louis C.
 Schmidt, Edmund R.
 Schmidt, Paul O.
 Schmidt, Robert B.
 Schnadt, Arthur H.
 Schnetzler, Edward G.
 Schoonover, Howard D.
 Schutte, Leo H.
 Seaton, George L.
 Seibt, William J.
 Selander, K. W.
 Sener, Charles J.
 Shuman, Alton B.
 Smith, Marius W.
 Smith, O. G.
 Sothen, Wm. H.
 Spencer, John P.
 Sproul, Malcolm R.
 Spurling, L. M.
 Stacy, D. F.
 Stanbery, J. N.
 Stang, Lester R.
 Stevens, Chas. J.
 Stewart, James A.
 Stewart, R. J.
 Stone, Bernard L.
 Stone, W. E.
 Stump, Robin D.
 Sutherland, William L.
 Svenson, J. Harold
 Swan, L. L.
 Switzenberg, Elmer A. F.
 Tamminga, Ernest D.
 Thompson, Wm. F.
 Tolar, James H.
 Tucker, Stanley W.
 Turner, John B.
 Turner, John R.

Unruh, George F. J.
 Usler, Norman B.
 Vallette, Frederic F.
 Van Weelden, M. J.
 Varenhorst, Francis G.
 Verity, R. C.
 Vial, Charles H.
 Voss, Irwin N.
 Wampler, Charles E.
 Waychus, Felix J.
 Weissappel, B. J.
 West, Gifford B.
 West, Paul B.
 Wetzel, Richard A.
 Wickline, B. D.
 Wilkens, A. P.
 Woolsey, Robert J.
 Wuellner, Wm. W.
 Zermuehlen, H. W.
 Ziemann, Howard C.
 Zink, Maximilian A.
 Zwerg, Harold R.

Illinois Brick Co.

Filippi, Hugo

Illinois Central R. R. Co.

Bell, Chas. M.
 Cooper, F. F.
 Johnson, Elmer A.
 Mottier, C. H.
 Nusz, W. G.
 Schaub, J. Benton
 Thompson, M. D.

Illinois Inspection Bureau

Gent, Abel H.

Illinois Institute of Technology

Ahern, John J.
 Edwards, Frank W.
 Giles, Arthur G.
 Grinter, L. E.
 Heald, Henry T.
 Hesse, Herman C.
 Kintner, Robert C.
 Labes, Willis G.
 Lewis, Wm. A.
 Penn, John C.
 Peterson, R. C.
 Rettaliata, J. T.
 Rushton, J. Henry
 Spencer, Henry C.

Illinois Road Builders Association

Soper, Taylor G.

Illinois, State of

Geological Survey

Ekblaw, George E.
 Leighton, M. M.
 Voskuil, Walter M.

Highways, Division of

Anderson, Carl A.
 Arnold, Clarence C. W.
 Frost, Oscar
 Harger, Kendrick
 McHugh, C. G.
 Newell, Russell J.
 Peterman, Walter C.
 Polk, Wesley W.
 Wendell, Everett J.

Post-War Planning Commission

Wells, E. Roy

Waterways, Division of

Alswede, Louis E.
 Lundgren, Edgar E.

Illinois Testing Laboratories, Inc.

Fizzell, J. A.

Illinois Tool Works

Brinker, Robert W.
 Clark, Daniel E.
 Lynn, Eugene H.

Illinois, University of

Carlson, Gordon V.
 Draffin, Jasper O.
 Enger, Melvin L.
 Huntington, W. C.
 Kapple, W. H.
 Richart, Frank E.
 Vanderkolk, William W.

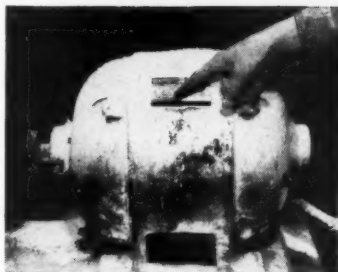
Illinois Zinc Co.

Kalk, A. C.

- Indiana Harbor Belt R. R.
Frederick, F. G.
- Indianapolis Power & Light Co.
Benson, Allen A.
- Industrial Designing Engineers
Associated
Schulze, Franz
- Industrial Equipment Co.
Massa, Erwin T.
Peterson, B. E.
Schlax, William F.
- Industrial Research Council of America
Shybekay, Derso S.
- Industrial Training Institute
Simans, Irwin W.
Wilcoxon, Lee
- Industrial Woods, Inc.
Herron, James C.
- Inland Engineering, Inc.
Hill, Theodore E.
- Inland Steel Co.
Chamberlain, L. E.
Johnson, Hjalmar W.
Long, George F.
Perry, W. A.
Sykes, Wilfred
- Institute of Gas Technology
Pettyjohn, E. S.
- Insulation Construction Co.
Hedges, Henry M.
- Insurance Company of North America
Denning, Ralph P.
Schipper, Richard C.
- International Harvester Co.
Bautz, Fredrick
Carlson, Ernest C.
Gridley, Frederick R.
Perkins, W. A.
- Interstate Power Company
Danielson, F. D.
- Intrusion Prepekt, Inc.
Patterson, Raymond
- Iowa State College
Gilkey, H. J.
- Jackson Company, A. L.
Jackson, Archer L.
- Jackson, D. C., Jr.
Jackson Electrical Construction Co., Inc.
Gilbert, H. C.
- Jackson & Moreland
Foster, Edmond R.
- Jacobs & Company, J. L.
Jacobs, J. L.
- Janette Mfg. Co.
Normann, Carl
Starkovich, John F.
- Jefferson Electric Co.
Caldwell, Joseph, Jr.
Daley, James C.
Horstmann, Roy J.
Maurer, L.
- Jenkins, Merchant & Nankivil
Jenkins, Carter
Nankivil, R. M.
- Jenks & Co., C. A.
Jenks, Clarence A.
- Johns-Manville Corp.
Purvis, Adrian A.
- Johnson & Johnson
Johnson, John H.
- Jones & Laughlin Steel Corp.
Wolff, Bruno B.
- Jordan, T. A.
- Joslyn Mfg. Supply Co.
Kenneally, M. M.
Piepho, Edward E.
Stanley, A. H.
Yonkers, Edward H.
- Joyce & Co.
Bonham, John D.
- Kahn Assoc. Archts. & Engrs., Inc., Albert
Johnson, Wilbur C.
Mulrenin, John J.
Richardson, Charles J.
- Kellex Corporation, The
McKinzie, D. J.
- Kelly, Edward J.
- Kelso-Burnett Electric Co.
Burnett, Oliver F., Jr.
- Kerite Company, The
Skylingstad, Dale E.
- Kerr and Associates, A. W.
Kerr, Albert W.
- Kimball Co., W. W.
Johnson, Nils E.
- King, A. C.
- Knox & Associates, Merrill B.
Knox, Merrill B.
- Knuth & Co., E. C.
Knuth, E. C.
- Kohlman, Inc., L. C.
Dingle, Gordon K.
- Kraft Foods Company
Fruechtel, Joseph H.
- Krahl Construction Company
Krahl, William F.
- Kreda & Associates, Samuel W.
Kreda, Samuel W.
- Krol & Hastrup, Engineers, Inc.
Hastrup, Harold K.
- Kuehl & Heavey
Kuehl, Albert J.
Kuehl, Henry A.
- Krumdieck, Leo
Kuffel, Eggert & Co.
Kuffel, W. F.
- Langner, Perry, Card & Langner
Peterson, V. A.
- Laramore & Douglass, Inc.
Sepulveda, L. A.
- Lehle, George I.
- Leich Electric Co.
Safarik, Edgar R.
- Lennox Mfg. Co.
Mortara, H. T.
- Leonard Construction Co.
Johnson, Edward P.
- Lerch Elevator Co., Charles
Lerch, Charles W.
- Lewis & Associates, Samuel R.
Boome, Alexander, Jr.
Lewis, Samuel R.

More Than 1,400,000 Tri-Clad Motors Now in Service
Over 5 Billion Motor Hours of Service
More Than 4 Million Hp of Tri-Clad Motors in Service

No Matter How You Say It, You Can't Beat Tri-Clad Motors!



This Tri-Clad motor has driven a pump in a dust-laden atmosphere for five years, around the clock, without a single failure.

So, when you think of motors, think of Tri-Clad ®, because there's a Tri-Clad motor that's right for every job. Many popular types and ratings now available off-the-shelf, ready for immediate delivery! General Electric Co., 840 South Canal St., Chicago, Ill.

GENERAL  ELECTRIC

Business

Lindberg Steel Treating Co.
Uitti, Arne E.

Link-Belt Co.
Chapman, Edward L.
Clark, Raymond W.
Hadsall, John M.
Kraft, Robert E.
Kucho, Joseph, Jr.
McCormick, H. J.
Meschter, Elwood, Jr.
Murbach, Edw. C.
Rasmussen, Frank
Redderson, Ernest W.
Schrader, Herbert E.
Tripp, Albert L.
Llewellyn Co., Jos. C.
Llewellyn, R. C.
Loebe, Roy A.
Loewenberg & Loewenberg
Loewenberg, M. O.
Long Beach, Calif., Port of
Sandham, R. D.
Los Angeles, Calif., City of
Harbor Dept.
Blye, Eugene N.
Lucas & Luick
Lucas, Thomas J.
Luick, Adolph J.
Lucke, Inc., Wm. B.
Lawrence, Clara E.
Lukko Sales Corp.
Rossi, Charles V.
Luminator, Inc.
Arenberg, Albert L.
Lundstrum & Skubie
Lundstrum, John E.
Lunkenheimer Co., The
Booss, Theodore B.

Lurie & Lurie
Lurie, Benj. L.
Lurie, Erwin M.
Lynch Company, W. J.
Lynch, Wm. J., Jr.
McCarthy Improvement Co.
Oseth, Howard T.
McCarty Brothers, Inc.
McCarty, Irving J.
Scheerens, Joseph J.
McConnell & Associates, J. L.
McConnell, J. L.
McConnell, Wm. M.
McGraw & Co., F. H.
Godfrey, Harold E.
McKee Door Co.
Hartzler, Melvin E.
McKiernan-Terry Corp.
Muir, Herbert H.
McMullen & Pitz Construction Co.
Weber, Emil A.
Macdonald Engineering Co.
Shipman, William D.
Walton, Chas S.
Mackie Company, N. S.
Mackie, N. S.
Mack-International Motor Truck Corp.
Korff, Richard C.
Mackler & Co., John
Link, Oren R.
MacMillin Engineering Corp.
MacMillin, Howard F.
Magnaflux Corp.
Conway, Edward F.
Maintenance Equipment Co.
Overmier, Emmons
Mancini, Ventrella & Sons
Ventrella, Angelo D.
Mann & Brown
Mann, L. B.
Mark & Co., Clayton
Peterson, C. T., Jr.

Marquette Paper Corp.
Krasin, Lawrence L.
Marquette Electric Switchboard Co.
Schaller, W. F.
Marrero, Lipsey & Swanson
Lipsey, Alex A.
Marsh & McLennan, Inc.
Anderson, Bolton G.
Foschimbaur, L. A.
Grydyk, Edmund J.
Morey, Albert A.
Smith, Frederick C.
Wilson, Joel R.
Maryland, University of
Just, James W.
Mason Co., Silas
Orr, Frank L.
Massey Concrete Products Co.
McDaniel, W. Lyle
Materials Service Corp.
Seaberg, Robert S.
Maxon Construction Company, Inc.
Budnik, C. A.
Skillman, John E.
Mayo Tunnel & Mine Equipment
Mayo, Robert S.
Mesabi Iron Company
Jackling, D. C.
Meissner, John F.
Merchant & Nankivil
Jenkins, Carter
Merrill & Company
Merrill, Dot
Metalock Casting Repair Service
Lewis, Fred W.
Meters & Controls, Inc.
Robinson, Thomas G.
Metro Tool & Gage Co.
Benson, Edward
Hunt, Henry J.
Meyer & Turner Co.
Techau, Ernest R.

LINK-BELT BALL AND ROLLER BEARINGS

- A COMPLETE LINE—for all types of service.
- DEPENDABLE PERFORMANCE—built to highest precision standards.
- CONVENIENT STOCKS—popular sizes and types available NOW
- VARIOUS MOUNTINGS—Pillow blocks—flange, hanger, take-up and cart-ridge units.



SEND FOR
CATALOGS

LINK-BELT COMPANY
PERSHING ROAD PLANT, 300 W. Pershing Rd.,
Chicago 9
CALDWELL PLANT, 2410 W. 18th St., Chicago 8
DISTRICT SALES OFFICE, 301 W. PERSHING RD., CHICAGO 9
Plants, Offices and Distributors in Principal Cities

MIDWEST ENGINEER

invites

Readers Advertisers

Agencies Subscribers

to submit articles, features, and news items
for publication.

A semi-technical treatment of a subject of
interest to engineers and architects
is suitable for

MIDWEST ENGINEER

A Publication of the Western Society of Engineers
84 E. Randolph St. :: Chicago 1, Illinois

Meyne Co., Gerhardt F.
 Fetters, Donald W.
 Manchee, R. P.
 Mavor, Hugh N.
 Meyne, Gerhardt F.
Michelmann Steel Construction Co.
 Gerdes, William F.
Midwest Heat Service
 Rosen, Norman A.
Midwest Piping & Supply Co.
 Parmely, J. C.
Midwestern Contractors, Inc.
 Nelson, Robert M.
Miller Artesian Well Co., J. P.
 Nelson, Morris O.
Milwaukee, Wis., City of
Bridges & Public Buildings,
 Bureau of
 Drought, Orville H.
Mines Engineering Co.
 Heller, W. D.
Mines National Bank
 Beisel, N. J.
Mintz & Associates, N. M.
 Mintz, N. M.
Mississippi Valley Structural Steel Co.
 Blix, E. T.
 Burhop, Harvey M.
 Dollinger, F. A.
 Smith, Austin W.
 Wilson, Alexander L.
 Wood, Rollin D.
Missouri Inspection Bureau
 Bechtolt, P. Robert
Missouri Pacific R. R. Co.
 Penn, Harry J.
Missouri State Highway Dept.
 Barber, J. D.
Mitchell, Jay G.
Mittelmann, Eugene
Molybdenum Corporation of America
 Roberts, Thomas D.
Monarch Electric Co.
 Florentine, Frank D.
Monroe Electric Company
 Leasure, Elmer E., Jr.
 Stretch, Richard J.
Montgomery Elevator Co.
 Casley, Lee T.
Montgomery Ward & Co.
 Cunliffe, Paul R.
 Engler, Charles
 Lynch, William B.
 Ziolkowski, C. S.
Morrison Hotel Corp.
 Weston, James E.
Motorola, Inc.
 Pringle, Chester L.
Mueller Construction Co.
 Mueller, Carl F.
 Mueller, Carl O.
Mulford Engineering Co.
 Mulford, Edgar T.
Muncie Construction Corp.
 Cutler, Byron H.
Mundie, Jensen & McClurg
 McClurg, Verne O.
 McClurg, William M.
 Parmer, John F.
Murphy and Dickey
 Dickey, Diamond S.
Murr Outdoor Products Co.
 Murr, Milton
Myers Co., The L. E.
 Gates, L. Dean
 Nelson, Albert L.
Myers, Walter J.
Naess & Murphy
 Roche, John P.
National Advisory Committee for Aeronautics
 Scott, W. Kenneth
National Biscuit Co.
 Adler, Howard R.
National Broadcasting Co.
 Lanterman, W. F.
 Luttgens, Howard C.

National Lumber Manufacturers Association
 Keith, Laurence P.
National Safety Council
 Williams, Sidney J.
National Survey Service, Inc.
 Pasquinnelli, S.
National Tool & Die Manufacturers Assn.
 Eaton, George S.
National Gas Pipeline Co.
 Murphy, Clarence R.
Neiler, Rich & Bladen
 Bethke, Philip H.
 Bladen, Arthur M.
 Bootz, Robert O.
 Nickel, Jack E.
 Warren, Albert R.
Neumann & Co., George O.
 Kaar, Howard W.
Neveling, Aloys, Sr.
New City Iron Works
 Vivoda, John V.
Newgard & Co., Henry
 Cox, Robert D.
New Mexico School of Mines
 Koch, Albert A.
New York Air Brake Co., The
 Silcox, Lewis K.
New York Blower Co.
 Zimmerman, Frederick C.
New York Central System
 Anderson, Arthur
 Dougherty, Edward A.
 Westenhoff, Alphonse M.
New York, City of
 Merriman, Chester F.
New York Water Service Corp.
 Luce, Arthur T.
Nichols Engineering Co.
 Goldman, B. F.
Nickel, D. A.
Niestadt & Love
 Love, Harold G.
 Niestadt, George W.
Nielsen Co., S. N.
 Nielsen, Elder R.
 Spencer, A. L.
Nikolas & Co., G. T.
 Wilson, Harry A.
Nitsche, Edward A.
North Shore Gas Co.
 Conover, Albert W.
Northern Illinois Coal Corp.
 Jones, James R.
 Mullins, Thomas C.
Northwestern Technological Institute
 Bigelow, Royal G.
 Calvert, John F.
 Eshbach, Ovid W.
 Hooper, Wm. T., Jr.
Nutrition Research Laboratories
 Whittier, Charles C.
O'Callaghan Bros.
 Cook, Oswald J.
O'Connor Construction Company
 Dexheimer, Roy B.
Ohmite Mfg. Co.
 Ellin, Fredrick I.
Oklahoma A & M College
 Huddle, Robert W.
Okonite Company, The
 Zane, Robert B.
Olsen, Wm. C.
 Pflanz, Erne
O'Neil Construction Co., W. E.
 O'Neil, Arthur F.
Otis Elevator Company
 Snow, Frank W.
Oughton Co., A. C.
 Oughton, A. C.
Pace Associates
 Binford, W. H.
 Johnson, G. Robert
Pacific Flush Tank Co.
 Cox, Clifford B.
 Langdon, Lawrence E.

Pacific Telephone & Telegraph Co.
 Bennington, Dorwyn S.
 Densmore, A. W.
 Lovell, Edward L.
Packers Architectural & Engineering Co.
 Knehans, Wm. H.
Paine, Clifford E.
Pardee & Associates, Harvey S.
 Pardee, Harvey S.
Parkhill-Wade Co.
 Floryan, John E., Jr.
Parsons, Brinckerhoff & MacDonald
 Brinckerhoff, Henry M.
Patterson-Kelley Co., Inc., The
 Lewy, Daniel
Peacock Steel Co.
 Sterling, Gerhard F.
Penick & Ford, Ltd.
 Bochmann, B. E.
Pennsylvania-Dixie Cement Corp.
 Chubb, J. H.
Pennsylvania R. R. Co.
 Hoberg, F. J.
 Moffat, James David
 Prentiss, E. W.
 Wayne, A. Alvin
Pennsylvania Telephone Corp.
 Engh, Harry M.
Peoples Gas Light and Coke Co., The
 Bucher, Edmund V.
 Grindel, John F.
 Henehan, Paul V.
 Morgan, George A.
 Nagler, K. B.
Pereira & Associates, Morton L.
 Pereira, Morton L.
Peterson & Associates, Lawrence
 McGlade, Leo
Philippine Long Distance Telephone Co.
 Mahoney, Harry P.
Pick Hotels Corporation
 Nydam, B. E.
Pierce Electric Company
 Pierce, J. N.
Pioneer Service & Engineering Co.
 Brillhart, Carl E.
 Herman, Herbert H.
 Hoeppner, H. L.
 Lane, F. H.
 Rosenthal, Fred S.
 Sanow, Nathan L.
 Strait, Edward N.
Pipeline Service Corp.
 Coe, Russell H.
Pirola & Erbach
 Pirola, Louis
Plambeck & Grumish
 Plambeck, Wm. F.
Podbielniak, Inc.
 Gleick, J. T.
Poor & Co.
 Poor, Fred A.
Pope Co., Wm. A.
 Everhard, E. P.
 Moore, Charles A.
Portland Cement Association
 Gonnerman, H. F.
 Wallace, W. Wayne
 Walls, C. A.
Post Electric Co.
 Flanagan, John E.
Powers-Thompson Construction Co.
 Albright, Geo. M.
 Armstrong, J. B.
 Metzger, Clifton J.
Precision Scientific Co.
 Flood, Paul E.
Presscrete Co., Inc.
 Weber, Carl
Procter & Gamble Mfg. Co.
 Marshall, Jay C.
Production Instrument Co.
 Nelson, Martin L.
Providence Redevelopment Agency
 Graham, Donald M.

Business

Public Service Company of Northern Illinois

Adler, Geo. H.
 Andrews, Francis E.
 Archbold, M. J.
 Armstrong, Emerson A.
 Bailey, George C.
 Bartlett, George S.
 Bennett, C. G.
 Boeke, Arthur C.
 Born, Paul L.
 Brown, Norman E.
 Burns, James J.
 Cappa, Lawrence B.
 Carlisle, Kenneth G.
 Caskey, A. D.
 Caswell, Ralph W.
 Clyde, John P.
 Cox, Francis A.
 Culp, Edwin R.
 Davies, Vernon L.
 Dolgos, Joseph J.
 Eddy, Harold T.
 Ellis, Holbert W.
 Enander, E. H.
 Eyer, Robert F.
 Field, Horace H.
 Ford, Howard E.
 Fox, John P.
 Fry, O. E.
 Genkinger, Herman N.
 Geyer, Robert C.
 Griffin, Sidney P.
 Haas, Albert E.
 Habenicht, George C.
 Haynes, Charles J.
 Hecht, J. L.
 Hendrickson, E. R.
 Henness, Charles F.
 Hieronymus, John W.
 Hill, Ole A., Jr.
 Hute, Leonard J.
 Janes, Leonard R.
 Jaques, C. A.
 Jensen, Otto L.
 Joslin, Murray
 Keller, Henry W.
 Kelly, Raymond R.
 Krohn, Howard G.
 Larson, Melville N.
 Larson, Peter L.
 Lauritsen, Clarence N.
 Lockwood, L. E.
 Lundgren, Edgar E.
 Lusher, Miles H.
 McCollum, W. H.
 McLean, C. J.
 Markle, M. G.
 Maxson, R. D.
 Mee, Charles L.
 Meiller, Daniel V.
 Mitchell, James I.
 Mitten, George R.
 Moosbrugger, Frank J.
 Morrison, R. J.
 Nelson, Charles J.
 Nelson, William E.
 Otto, Harold W.
 Richards, Norman J.
 Rogers, Edgar
 Roth, Edward F.
 St. Pierre, Lowell C.
 Schwalm, Harold E.
 Sedwick, H. P.
 Sheehan, Edward D.
 Sherman, Thomas N.
 Snook, Wilbur L.
 Stauss, Raymond O.
 Thompson, David O.
 Thorsen, Harry
 Toreky, Zoltan G.
 Tornquist, E. L.

Tuttle, L. W.
 Wade, Irving L.
 Wegener, E. C.
 Whitney, Richard A.
 Whitton, A. Wm.
 Wilkins, Dean C.
 Williams, Earl C.
 Williams, Geo. M.
 Wood, David P.
 Young, R. E.
Public Service Electric & Gas Co.
 Bettie, W. H.
Pullman Company, The
 Isel, T. G.
Pullman Standard Car Mfg. Co.
 Bessett, Clifford H.
 Cosyn, Peter R.
 Deam, Clayton
 DeCarlo, Daniel J.
 Dykstra, Andrew N.
 Heniades, James
 Sampson, Roy E.
 Spagnola, Leon
Purdue University Technical Institute
 Zacher, Clarence H. R.
Purdue University
 Wyly, L. T.
Pure Oil Co.
 Arens, Albert H.
 Burger, S. A.
 Wasson, Theron
Puromat Company
 Prager, Frank D.
Pyle-National Co.
 Raider, George K.
Quilty Engineering Co.
 Quilty, T. Frank
Ragnar Benson, Inc.
 Niessadt, Fred A.
Randall & Sons, Frank A.
 Randall, Frank A.
 Randall, Frank A., Jr.
 Wood, Donald G.
Rapp & Rapp
 Brush, D. H., Jr.
Refinery Engineering Co.
 Ball, John C.
Regan Co., Robert G.
 Anderson, James S.
Reichert Engineering Co.
 Gougler, J. H.
Rempe Co.
 Vogel, Arthur G.
Renken & Co., R.
 Renken, Rudolf
Republic Flow Meters Co.
 Lindemann, George E.
Roberts & Schaefer Co.
 Beebe, Horace M.
 Lubke, Walter F.
 Molke, Eric C.
 Wagner, Raymond
Rocky Mountain Arsenal
 Marsh, Don E.
Roller-Smith Co.
 Weldy, Lawrence L.
Rollway Bearing Co., Inc.
 Darke, Frank S.
Ron-Del Co., The
 Schurger, David L.
Ronningen Engineering Sales
 Ronningen, Helmer A.
Roots-Connersville Blower Corp.
 Johann, Daniel A.
Ross Engineering Corp., J. A.
 Janett, Leslie G.
Rossen, Evans & Rossen
 Rossen, John
Royal Electric Mfg. Co.
 Trotter, James M.
Rust Engineering Co.
 Russell, James D.
Ryerson & Son, Inc., Jos. T.
 Petters, F. W.
S & C Electric Co.
 Conrad, Nicholas J.
St. Louis Car Co.
 Wheeler, William C.

St. Regis Paper Co.
 Dixon, Marvin H.
Sales Analysis Institute
 Young, Albert Miller
Salkover Metal Processing of Illinois
 Jacobsmeier, Lawrence B.
Salzman & Sons, Inc.
 Salzman, A. L.
San Benito, Texas, City of
 Andersen, Mads C.
Sandmann Engineering Co.
 Groves, J. Osborn
Sanitary District of Chicago
 Barber, Lawrence B.
 Bartz, Harry J.
 Bentz, Clarence L.
 Girard, Peter F., Jr.
 Johnson, Albert W.
 Keoughan, Lawrence
 Levitsky, Leonid N.
 Lincoln, Thomas W.
 Pearse, Langdon
 Ramey, Horace P.
 Towne, John W.
 Trinkaus, W. H.
 Wundrach, Louis
Santucci Construction Co.
 Woselowsky, George S.
Sargent & Lundy
 Blanchard, Geo. Louis
 Boersma, William
 Burkross, James E.
 Custer, Edward
 Freiberg, Frederick A.
 Gavin, Richard I.
 Goss, H. A.
 Sargent, Ralph
 Schroeder, Henry C.
 Skog, Ludwig
 Strasser, R. J.
 Troxel, F. D.
Sauerman Bros., Inc.
 Collins, Walter S.
 Dillon, J. Robert
 Ellertson, Wollert R.
 Hubbell, Clifton H.
 Marshall, Stanley C.
 Meyer, Martin
 Sauerman, John A.
 Sonderegger, H. H.
Scaar Iron Works, Inc.
 Scaar, Harry
Schless Construction Co., Inc.
 Schless, J. T.
Schmidt, Garden & Erikson
 Jeffries, William R.
Schroeder, Merriam, Hofgren & Brady
 Schroeder, Bernard A.
Schweitzer, Arthur R.
Schweitzer, Edmund O.
Schweitzer & Co., Wm. E.
 Schweitzer, William E.
Sears Roebuck & Co.
 Eneborg, Carl G.
 Johnson, Halvard T.
Seely, Ray
Shapiro, Benj. B.
Shaver, A. G.
Shaw, Metz & Dolio
 Barnett, Mrs. E. Frances
 Anda, L. S.
 Gnaedinger, John Phillip
 Hanson, Carl D.
 Metz, Carl A.
 Till, Henry
Siewerth Sons, Arthur G.
 Siewerth, Arthur E.
Signal Oil Co.
 Nill, Raymond W.
Signode Steel Strapping Co.
 Erickson, Ray F.
 Hulick, Farel A. H.
Simmons-Boardman Publishing Corp.
 Howard, Neal D.
 Dick, Merwin H.

Simmons Co., J. L.
 Hill, Chas. O.
Simon, Louis I.
Simpson Optical Mfg. Co.
 Strickland, W. P., Jr.
Sinclair Refining Co.
 Ferguson, Lester M.
 Long, Samuel P.
 Lynn, C. V.
Sirrine & Co., J. E.
 Cehan, Eugene G.
Skeen & Co., D. H.
 Williams, Kenneth
Skidmore, Owings & Merrill
 Fairhall, W. M.
 Major, Russell E.
Sloan, Cook & Lowe
 Cook, Maynard A.
Smith Industrial Engineering Co., L. C.
 Ross, William J.
Smith & Co., Osborne B.
 Smith, Osborne B.
Soans, Pond & Anderson
 Swanson, Carl E.
Socony Vacuum Oil Co.
 Williams, W. Owen
Sollitt Co., S. S.
 Barth, Anton J.
Soreng Manufacturing Corp.
 Sanda, Laddie A.
Sorgel Electric Co.
 Smith, John R.
Southern Bell Telephone Co.
 Benner, Archie C.
Spiegel, Inc.
 Cresap, Robert S.
Spokane County Engineering Office
 (Wash.)
 Zaiser, Earl E.
Spra-Con Company
 Sues, Roy L.
Spraying Systems Co.
 Bramsen, S.
 Wahlin, Fred W.
Springfield Fire & Marine Insurance Co.
 Spalding, F. W., Jr.
Standard Oil Co. (Ind.)
 Bennett, Howard O.
 Gilman, Brice E.
 Hewson, J. F.
 Sampson, Alexander E.
 Scheineman, F. W.
 Silla, Mario R.
Standard Rolling Mills, Inc.
 Knowlton, Elwin C.
Stanford Research Institute
 Hobson, Jesse E.
Stanton & Rockwell
 Rockwell, Matthew L.
Starne Co., Inc.
 Paul, Theodore J.
Steno Mfg. Company, Inc.
 Hoffman, Milton
Stewart, Charles E.
Stevenson, Jordan & Harrison, Inc.
 Blaida, Andrew S.
Stewart Corp., James
 Daccardo, Samuel
 Karp, Elmer H.
Stirling Tool Products Co.
 Petelle, James F.
Stewart-Warner Corp.
 Andrews, Edward L.
 Peterson, D. C.
 Raisch, C. F.
 Tear, Harry R.
Stoelting Co., C. H.
 Koller, Robert
Stone Container Corp.
 Merrill, Jed J.
Stone & Webster Engineering Corp.
 Bouscaren, Louis H. G.
 Newling, Lawrence H.
Stoyanov Engineers, Alex
 Stoyanov, Alex
Stroebel Construction Co.
 Haupt, C. W.

Stromberg, John A.
Stuart Oil Co., Ltd., D. A.
 Erickson, Harry A.
 Slivinski, LeRoy F.
Sueske Brass & Copper Co.
 Kostenko, B. M.
Superheater Co., The
 Palmquist, D. W.
 Uzis, Albert A.
Swift & Company
 Haeffner, John G.
 Jensen, Edwin W.
 Reichle, F. G.
 Wilson, John E.
Synchro-Start Products, Inc.
 Stelter, William L.
Taco Engineering Co.
 Cohen, Theodore A.
Taussig, Wm. S.
Taylor Forge & Pipe Works
 Taylor, J. Hall
Technical Publishing Co.
 Turner, Ralph E.
Telephone Repair & Supply Co.
 McNulty, Daniel H.
Teletype Corp.
 Baldwin, Edward T.
 Goetz, Maurus T.
 Halvorsen, Ralph H.
 Keyes, George G.
 Nilson, Arthur N.
 Zenner, Walter J.
Television, Inc.
 Goldstein, Milton
Tennessee Inspection Bureau
 Dahlgren, William J.
Texasteel Mfg. Co.
 Mooney, J. R.
Thor Corporation
 Enander, John O.
 Tryhuk, Edward W.
Thornton & Associates, Wm. F.
 Andrews, James H.
Tidewater Associated Oil Co.
 Lyon, Edward A., Jr.
Timber Structures, Inc.
 Ruhl, David A.
Toale Appraisal Organization, Inc.
 Toale, Joseph P.
Tool Service for Industry
 Barber, Thomas C.
Trimon Elevator Co., Inc.
 Dobbert, Bert E.
Truckstell Manufacturing Co.
 Derrom, Donald L.
Trumpis-Collar and Associates
 Trumpis, Robert A.
Underwriters' Laboratories, Inc.
 Snowden, Edward N.
Union Special Machine Co.
 Haugan, J. R.
Union Switch & Signal Co.
 Kellenberger, K. E.
United Air Lines
 Kukar, J. R.
United Conveyor Corp.
 Simpson, George N.
United Engineers & Constructors, Inc.
 Dangremont, L. M. G.
 Hellsen, Karl E. W.
 Leardi, Thomas J.
 Wilson, Thomas
U. S. Fidelity & Guaranty Co.
 Bernard, Cecil O.
 Poedtke, Carl H.
United States Government
Air Force
 Floyd, W. H., III
 Miller, Edward A.
 Rosing, Anton S.
 Smith, Gilbert M.
 Umeda, Joe
Army
 Naehr, Harry F.
 Pomy, Herman J.
 Sheviak, Frank G.

Atomic Energy Commission
 Aronstam, Milton
Engineer Office
 Bird, Byron
 Ficarratto, Sado C.
 Lindquist, Bert S.
 Santana, William J.
 Thompson, Russell A.
 Wicks, C. H.
Federal Communications Com.
 Shumway, Noble C.
F H A
 Mitchell, Roy C.
F W A
 Brock, Edison
 Marx, Lester M.
 Parker, Lawrence G.
 Post, Chester L.
 Seymour, Charles W.
Marine Corps
 Hirth, Raymond C.
Mines, Bureau of
 Toennies, Adlai K.
Navy
 Frank, Joseph W.
 Gawin, Stanley W.
 Johnson, B. A.
 Krasa, Albert
 Reynolds, I. L.
 Storey, Donald G.
 Thornton, W. E.
 Tomeczak, Casimir A.
Reclamation, Bureau of
 Harmer, L. S.
 Skinner, Sylvan J.
U. S. Gypsum Co.
 Berzelius, Carl E.
 Smith, Monroe A.
 Todman, Harry G.
 Yerges, Lyle F.
United Wallpaper, Inc.
 Hopkins, Edward J.
Universal Atlas Cement Co.
 Friedlaender, W. V.
 Gosswein, O. H.
Universal Oil Products Co.
 Bockman, Theodore
 Egloff, Gustav
 McCausland, John W.
 Nelson, Edwin F.
Vacek, Bohumir R.
Vallejo, Calif., City of
 Peterson, C. J.
Van Alstyne & Associates
 Grayson, Frank M.
Van Cleef Bros.
 Frick, Carl E.
Van Trump Testing Laboratories
 Van Trump, Isaac
 Van Trump, K. S.
 Van Trump, Roderick
Vapofier Corporation
 Capra, Robert P.
Vapor Car Heating Co.
 Miller, Donald W.
Velocity Steam Production Engineering, Inc.
 North, William Lee
Vermiculite Institute
 Murphy, Edward R.
Victor Adding Machine Co.
 Schuler, Reginald G.
Viking Tool & Die Co.
 Batalden, Henry
Vogel Company, H. G.
 Kientz, Glenn I.
Vogh Machine Co., Henry
 Staley, E. G.
Wachs Co., The E. N.
 Wachs, Edward H.
Wadeford Electric Co.
 Lundberg, Harold H.
Wallace Supplies Mfg. Co.
 Lammers, Franklyn J.
Wallace & Tierman Co.
 Beckman, Leroy J.

Business

Walling Co., The
 Walling, R. A.
Ward Leonard Electric Co.
 Gray, Kline
Warner Construction Co.
 Alperin, Moses
 Luedeking, Robert T.
Warner, Inc., Lansing B.
 Peeney, Georgiana H.
Warner, Wm. H.
Washington Properties, Inc.
 Sedgwick, Frederick W.
Washington University
 Compton, Arthur Holly
Waukesha Lime & Stone Co.
 Latimer, George T.
Weber, Bertram A.
 Perkins, Ruth H.
Webster, Arthur L.
Wells Engineering Co.
 Ashley, Clifford A.
Wendnagel and Company, Inc.
 Mueller, John E.
West Bend Equipment Corp.
 Ball, John F.
Westcott Engineering Co.
 Westcott, C. H.
Western Electric Co., Inc.
 Allegretti, Aldo
 Altpeter, Walter G.
 Beal, Henry C.
 Bergland, Floyd E.
 Bilterman, Henry Ludwig
 DeNio, Frederick H.
 Fitzgerald, Thos. C.
 Foit, Otto L.
 Futrell, W. D.
 Gehle, Fred C.
 Herr, C. C.
 Jensen, Harold L.
 Jessup, R. D.
 Johnson, H. J.
 Johnson, Norman A.
 Kessie, Edgar S.
 Kohr, Hilton G.
 Kotiza, Edward
 Landry, George A.
 McCain, Cecil C.
 Miller, Merton R.
 Morman, Edwin C.
 Nessel, Charles M.
 Nowell, Keith P.
 Pugh, Emerson
 Rice, James W.
 Schmidt, Edward F., Jr.
 Slomka, Joseph J.
 Snyder, Robert A.
 Springbrunn, Gilbert P.
 Stuhlfauth, George
 Townsend, Harvard C.
 Vanderpool, A. M.
 Wanderer, Alwin E.
 Weeks, Gilbert E.
 Yost, Verne W.
Western Railroad Supply Co.
 Gillespie, S. E.
Western Society of Engineers, The
 Steger, Donald V.
Western Union Telegraph Co.
 Acott, Maurice Q.
 Bowers, C. C.
 Callahan, John J.
 Greenawalt, W. L.
 Hillis, George C.
 Hoffstetter, G. E.
 Oberg, Elmer D.
 Rempert, Harold E.
 Smith, C. G.
 Trent, Elmer J.
 Wahlstrom, Robert D.
Western United Gas & Electric Company
 Bloss, Daniel E.

Richardson, B. R.
 Wilkinson, Cyril J.
Westfield, N. J., Town of
 Swenson, Alfred H.
Westinghouse Air Brake Co.
 Campbell, J. Alan
Westinghouse Electric Corp.
 Action, V. S.
 Brasseur, Maurice
 Maxwell, Marvin V.
 Plummer, R. L., Jr.
 Smith, H. K.
 Whiting, Fred T.
Westland Engineering Supply Co.
 Seamon, Benjamin E.
Weston Electrical Instrument Corp.
 Ketel, Carl G.
 Miller, Carl G.
 Thielke, Alvin
 Westburg, Paul A.
Wetten & Co., Albert H.
 Bailey, George R.
White Dental Mfg. Co., The S. S.
 Wittlinger, Carl A.
Wieboldt's, Inc.
 Gross, Maurice N.
Wieboldt Co., R. C.
 Read, Roy P.
 Wieboldt, R. C.
 Wieboldt, R. C., Jr.
Wight and Company
 Wight, Raulin B.
Willett, C. K.
 Anderson, Robert Howard

Willet & Company
 Willet, G. R.
Wilmak Corporation
 Williams, Albert P.
Winnetka, Village of
 Adams, Luther
 Anderson, Robert L.
 Haugland, Sigurd
 Woolhiser, H. L.
Woodings-Verona Tool Works
 McComb, R. J.
Woodruff & Edwards, Inc.
 Salerno, Paul F.
Wyman-Gordon Co.
 Boye, Max Richard
 Rossate, Jack S.
Yale & Towne Mfg. Co.
 Weeks, Lawrence E.
Yarline & Co., Frank W.
 Yarline, Frank W.
Yeomans Bros. Co.
 Ciabattari, Emil J.
Young & Greenawalt Co.
 Young, J. L.
Youngstown Sheet & Tube Co.
 Zink, Gordon G.
Zack Company, The
 Zack, Hans J.
Zia Company, The
 Hohner, Fred W.
Zima & Associates, George
 Zima, George

Now Available

Luxurious meeting rooms in the new Headquarters of Western Society of Engineers may be obtained by professional and technical organizations for meetings. Business organizations and advertising firms may also utilize the facilities for sales or display conferences. The large meeting room has a seating capacity of 193 persons. Comfortable theatre type chairs, public address system, blackboard and motion picture equipment are only some of the conveniences offered.

A smaller meeting room accommodating 100 persons is also located adjacent to the large room. Sliding, sound absorbent doors may be opened to give a maximum seating capacity to 318 persons.

The magnificent lounge and bar, as well as the dining room is open from 11:00 A.M. to 10:00 P.M.

84 East Randolph Street is convenient to Illinois Central, "L," street car and bus transportation. There are adequate parking lots in the neighborhood.

FOR PARTICULARS CALL OR WRITE:

Donald V. Steger
Executive Secretary
 Western Society of Engineers
 84 E. Randolph Street
 Chicago 1, Ill.
 Phone: RAndolph 6-1736

Section Enrollment

BRIDGE AND STRUCTURAL ENGINEERING SECTION

Chairman.....Albert P. Boysen
Vice Chairman.....E. W. Prentiss
Program.....Edward J. Slygh
Publications.....A. R. Mitchell
Attendance.....C. H. Westcott
Membership.....W. B. Gray

Ahlskog, Edwin
Albert, Edward R.
Albright, George M.
Alford, Thomas E.
Anda, L. S.
Andersen, Mads C.
Anderson, James S.
Anderson, Peter K.
Andrew, C. R.
Andrews, James H.
Anning, H. E.
Armstrong, H. G.
Armstrong, J. B.
Armstrong, W. Scott
Arn, W. G.
Arnold, Clarence C. W.
Arvites, George D.
Bain, A. J.
Bakhshi, S. R.
Balkin, Louis
Balkin, Stuart
Ballinger, W. E.
Banta, John S.
Barclay, William O.
Bardwell, Allen E.
Barnes, Harold I.
Barnett, Mrs. E. F.
Baronet, John K.
Barta, D. D.
Barth, A. Joseph
Basler, George R.
Battey, Paul L.
Becker, Donald N.
Bee, Adbert W., Jr.
Beebe, Horace M.
Beeman, W. Francis
Beneseck, Thomas
Bennett, J. Gardner
Benson, Earle G.
Bentz, Clarence L.
Benz, Carl W.
Beranek, Lloyd L.
Berkenblit, S. E.
Bigelow, Lawrence N.
Biggs, E. James
Bird, Byron
Bird, Samuel E.
Blair, George R.
Blair, James H.
Blanchard, Murray
Blickensderfer, Jos. W.
Blix, Einar T.
Blye, Eugene N.
Boardman, Harry C.
Bonham, John D.
Bovie, Girard L.
Bowman, George L.
Boysen, Albert P.
Brandstetter, Joseph M.
Brewer, Arthur H.
Bridges, Joseph L.
Brilhart, Carl E.
Brockhausen, Carl E.
Brundage, Avery

Brussel, Hughes
Budnik, Cass A.
Bulley, Allan E.
Bishop, Harvey M.
Burkey, Mack G.
Butcher, Harry F.
Caccavale, Ralph
Cahill, James E.
Campbell, Richard B.
Carlson, Wendell
Casad, Maurice W.
Cehan, Eugene G.
Cerling, Fredolph A.
Cheatle, Edwin L.
Cheney, Seymour W.
Clifford, Dell G.
Condron, Theodore L.
Cook, Robert A.
Cooper, F. F.
Cosley, Harvey H.
Cotter, William M.
Custer, Edward
Daccardo, Samuel
Dahlquist, Philip L.
Dangremond, L. M. G.
Darrow, Frank T.
Deam, Clayton
DeBerard, W. W.
DeBoer, Herman O., Jr.
DeBourge, G. Earl
Deckert, J. E.
Dee, Marvin R.
Dexheimer, Roy B.
Dike, Chester T.
Dillon, J. Robert
Dollinger, F. A.
Dose, H. F.
Draffin, Jaseper O.
Drought, Orville H.
Duner, Joseph A.
Eiserer, Adolph F.
Epstein, Abraham
Erdal, Ingolf
Ericsson, Clarence E.
Ericsson, Dewey A.
Farrelly, Joseph L.
Ferguson, Farley S.
Fetters, Donald W.
Ficarratto, Sado C.
Filippi, Gottlieb
Filippi, Hugo
Findlater, William E.
Fitch, James C.
Flook, Lyman R.
Floryan, J. E., Jr.
Frandsen, N. P.
Franzen, Clarence E.
Fredrick, Theodore C.
Freiberg, Frederick A.
Fuhrer, Max
Gaensslen, Carl A.
Gebhardt, John W.
Gerber, Arthur U.

Gerdes, William F.
Gerlach, Howard P.
Geyer, Robert C.
Gilkey, H. J.
Gnaedinger, John P.
Godfrey, Harold E.
Goldsby, Fred L.
Gonnerman, H. F.
Goodell, Floyd K.
Goodman, Edwin M.
Gosswein, O. H.
Gough, William I.
Gould, Harry
Graf, William F.
Gray, Walter B.
Green, Ralph
Greene, William K.
Gridley, F. R.
Griffin, Sidney P.
Grindel, John F.
Grinter, L. E.
Gritschke, Elmer R.
Grundvig, K. E.
Guillemin, Victor
Gunlock, Virgil E.
Gurtler, William A.
Guy, Erven M.
Hadwen, T. Lovel D.
Haefner, John G.
Haigh, Arthur H.
Hall, Charles F.
Harman, Jacob A.
Harris, Arthur R.
Hartzell, Emory F.
Hastrup, Harold K.
Haupt, C. W.
Hausler, M. G., Jr.
Havens, George
Heald, Henry T.
Heald, James H.
Heckel, Ervin J.
Hedges, Henry M.
Heller, William D.
Hellsen, Karl
Henderson, Frank B.
Herold, P. J.
Hess, Bryce M.
Hewson, J. F.
Highly, P. M.
Highwood, Donald H.
Hill, Charles O.
Hoberg, F. J.
Hollander, George J.
Holt, Newton O.
Hooper, William T., Jr.
Hopkins, Robert S.
Hughes, Dean G.
Hughes, Lorne J.
Hugon, Henry B.
Humiston F.
Hunt, Henry J.
Huntington, W. C.
Hussman, Carl, Jr.
Jeffries William R.
Jenks, Clarence A.
Jeppeson, Gunni
Johnson, Albert W.
Johnson, Edward P.
Johnson, Elmer A.
Johnson, G. Robert
Johnson, Herman G.
Johnson, Maro
Jordan, Donald T.
Jordan, Robert B.
Jordan, T. A.
Joyce, Joseph L.

(Continued on Page 70)

Sections

BRIDGE AND STRUCTURAL ENGINEERING (CONT'D)

Kaar, Howard W.
Kaindl, Arthur M.
Karp, Elmer H.
Kaufman, Morris B.
Keith, Laurence P.
Kelley, Raymond R.
Kinney, William M.
Klecka, Joseph
Knapp, Raymond S.
Knehans, William H.
Knight, Robert
Knudsen, Harold B.
Knuth, Edwin C.
Koch, Albert A.
Koeberle, Harold J.
Koepke, Herman F.
Kohout, George W.
Kostenko, Barry M.
Krahl, William F.
Krasin, Lawrence L.
Krass, Hymen H.
Kreller, R. A.
Kreutzburg, Arthur R.
Kuhn, Francis H.
Kukar, J. R.
Kus, Elmer A.
Kutaj, Walter C.
Lacher, Walter S.
Ladd, Chauncey H.
Lange, Robert N.
Larsen, Peter M.
Lawson, Russell L.
Leardi, Thomas J.
Leeper, Marvin T.
Lehle, George L.
Lillard, Paul
Lindquist, Bert S.
Linsenmaier, W. R.
Llewellyn, Ralph C.
Logan, Howard
Long, George F.
Lubke, Walter F.
Lucas, Fred H.
Lucas, Fred H.
Lucas, Thomas J.
Lurie, Erwin M.
Lynch, William J., Jr.
Lynn, C. V.
McClurg, Verne O.
McConnell, J. L.
McConnell, William M.
McDaniel, W. Lyle
McDonald, Lewis
McDowell, Harold L.
McGlade, Leo
McGrath, Raymond V.
McKamy, Paul E.
McNew, Delbert R.
Macklin, Charles
Madden, Lawrence M.
Madgouranis, George C.
Madson, Howard C.
Magee, Carl T.
Mahnke, E. Chris.
Maloney, John M.
Manchee, R. P.
Marden, Edward A.
Merriman, Chester F.
Metz, Carl A.
Meyne, Gerhardt F.
Michaels, Ernest E.
Miller, C. Marshall
Mitchell, A. R.
Morgan, H. H.
Morrison, James R.
Mottier, Charles H.
Mueller, Carl F.
Mueller, John E.
Muir, Herbert H.
Murphy, Edward R.

Murr, Hilton
Myers, Walter J.
Nelson, Carl E.
Nelson, Morris O.
Nelson, Robert M.
Nelson, Robert T.
Newling, Lawrence H.
Nielsen, Elker R.
Nielsen, Harvey C.
Niestadt, Fred A.
Niestadt, George W.
Nill, Raymond
Noethling, Clarence M.
Norman, Milton E.
Northquist, Ruben A.
O'Brien, Kenneth W.
Olfe, Virgil M.
Olsen, Roy A.
O'Neil, Arthur F.
Ormsby, Orrville H.
Oseth, Howard T.
Ottoman, Edward Jr.
Parmer, John F.
Patterson, Raymond
Paul, Theodore J.
Paulson, Roy A.
Pearson, Elmer I.
Penn, Harry J.
Penn, Harry
Penn, John C.
Perkins, Ruth H.
Peterson, H. G.
Peterson, Burdette E.
Peterson, Frank E.
Peterson, James E.
Phelps, Marion A.
Plummer, R. L., Jr.
Polk, Wesley W.
Porter, Alan A.
Post, Chester L.
Potter, William C.
Prentiss, E. W.
Prince, Harry C.
Purvis, Adrian A.
Quilty, T. Frank
Randall, Edwin A.
Randall, Frank A.
Randall, Frank A., Jr.
Rasmussen, Richard J.
Read, Roy F.
Reel, Richard H.
Reichle, F. G.
Reichmann, Albert
Reilly, Lawrence E.
Renken, Rudolph
Reynolds, S. T.
Rhoades, Dwight R.
Richardson, Charles Jr.
Richart, F. E.
Richter, Harry P.
Rogers, Paul
Ross, William J.
Rossen, John
Rossiter, Glenn A.
Ruble, E. J.
Ruchti, Graham
Ruggles, W. S., Jr.
Ruhl, David A.
Runde, Edgar
Sale, Frank A.
Salzman, A. L.
Salzman, Alexander E.
Sandman, Joseph J.
Sanow, Nathan L.
Santina, William J.
Sawyer, Percy
Scaar, Harry
Schad, James A.
Schaefer, James W.
Schaub, J. Benton
Scheerens, Joseph J.
Scheineman, F. W.
Schlax, William F.
Schless, J. T.
Schlinz, Herman W.
Schmidt, Norman E.
Schulze, Franz
Seidensticker, F. W.
Serat, George W.
Seth, George W.

Seymour, Charles W.
Shapiro, Benjamin B.
Sherman, Thomas N.
Shipman, William D.
Shuma, William F.
Shuman, E. C.
Silla, Mario R.
Siman, Louis L.
Simpson, Arthur Raymond
Simpson, George N.
Simpson, Ralph H.
Skillman, John E.
Skinner, S. J.
Slygh, Edward J.
Smith, Austin W.
Smith, O. G.
Solheim, Peter J. M.
Sonderegger, H. H.
Soper, Taylor G.
Spaulding, Robert E.
Steitz, Gustave J.
Sterling, Gerhard F.
Stern, Isaac F.
Stoyanov, Alex
Strazz, Anthony J.
Sues, Roy L.
Swenson, Edwin H.
Taylor, Orin H.
Thatcher, William M.
Theilgaard, Harvey L.
Thomas, Frank P.
Thompson, David O.
Thompson, M. D.
Till, Henry
Toale, Joseph P.
Todman, Harry G.
Toennies, Adlai K.
Twichell, Howard W.
Uitti, George I.
Urbain, Leon D.
Vacek, Bohumir R.
Valonis, Edmund J.
Vanderkolk, W. W.
Van Trump, K. S.
Van Trump, Roderick
Vivoda, John V.
Wade, J. William
Wade, Reginald N.
Wagner, Harvey F.
Wagner, Raymond
Walker, Harry
Walker, Reno R.
Wallace, W. Wayne
Wanderer, Alvin
Warner, William H.
Warshaw, M.
Webb, C. Earl
Weber, Emil A.
Weeks, Edward L.
Weinstein, Norman
Wells, Arthur H.
Welton, Kenneth E.
Westcott, C. H.
Westenhoff, A. M.
Wetherell, Dwight N.
Wheeler, Warren C.
Wieboldt, R. C.
Wieboldt, R. C., Jr.
Wilkinson, Walter
Williams, R. E.
Wilson, Alexander L.
Wilson, John E.
Wilson, Wilbur M.
Winter, George R.
Wolff, Bruno B.
Wolff, George E.
Wolford, Gilbert F.
Wood, Donald G.
Wood, Rollin O.
Wyand, John J.
Wysockey, L. F.
Young, Hugh E.
Young, J. L.
Young, M. F.
Zacher, Clarence H. R.
Zaiser, Earl E.
Zapel, Elmer J.
Zink, Maximilian A.

CHEMICAL AND METALLURGICAL ENGINEERING SECTION

Chairman.....J. C. Witt
 Vice Chairman.....J. T. Gleick
 Program.....Harry P. Hagedorn
 Attendance.....Clarence Greasley
 Membership.....Clyde A. Crowley

Alven, Alfons
 Anderson, H. A.
 Appleby, Joseph, Jr.
 Armstrong, L. W.
 Aronstam, Milton S.
 Ballinger, Walter E.
 Bennett, J. Gardner
 Benson, Earle G.
 Billow, E. E., Jr.
 Bixby, Griffith S.
 Bjorksten, Johan
 Bochmann, B. E.
 Bockman, Theodore
 Bottrill, David H.
 Busch, Joseph S.
 Carver, Francis T.
 Christy, Andrew
 Crowley, Clyde A.
 Day, Dudley W.
 Dienner, John A.
 Dobry, L. F.
 Dopp, Carl A.
 Doubek, Clifford J.
 Egloff, Gustav
 Everhard, E. P.
 Faville, Frederick A.
 FitzPatrick, P. John
 Flood, Paul E.
 Frank, Joseph W.
 Frick, Carl E.

Friedlander, William V.
 Galandek, John
 Gawin, Stanley W.
 Gehle, Fred C.
 Gleick, Joseph T.
 Gockman, Edward C.
 Gonnerman, H. F.
 Greasley, Clarence
 Green, Jay D.
 Hagedorn, Harry P.
 Havens, George
 Hayden, Carl F.
 Heeren, Martin H.
 Houser, A. M., Jr.
 Huddle, Robert W.
 Humiston, John F.
 Idaszak, Leo R.
 Jackling, D. C.
 Jacobsmeyer, Lawrence B.
 Johnson, Edward P.
 Johnson, Hjalmar W.
 Johnson, Leonard E.
 Junkins, John N.
 Kenneally, M. M.
 Kintner, Robert C.
 Klimczak, Ernest J.
 Kostenko, Barry M.
 Kucho, Joseph, Jr.
 Kuhn, Francis H.
 Lammers, Franklyn J.

Lee, Chesman A.
 Leighton, M. M.
 Liebmann, Paul O.
 Long, Samuel P.
 Lucas, Thomas J.
 McKamy, Paul E.
 Macomb, John deN.
 Merrill, Jed J.
 Mitten, George R.
 Morgan, H. H.
 Nelson, Edwin F.
 Nichols, Henry W.
 Pardee, Harvey S.
 Pohlmann, Edward F.
 Pollak, Manfred J.
 Poor, Fred A.
 Robinson, T. G.
 Rosen, Norman A.
 Rumely, Richard A.
 Rushton, J. Henry
 Russell, J. D.
 Sayers, Robert P.
 Scheineman, F. W.
 Schmitz, Carl Edward
 Shuman, E. C.
 Smith, Earl J.
 Steitz, Carl G.
 Uitti, Arne E.
 Uzis, Albert A.
 Van Trump, K. S.
 Van Trump, Roderick
 Wade, J. William
 Wells, Arthur H.
 Witt, J. C.
 Wright, Wm. Ryer
 Zmeskal, Otto

COMMUNICATIONS ENGINEERING SECTION

Chairman.....N. H. Saunders
 Vice Chairman.....Maurus T. Goetz
 Program.....Charles A. Huebner
 Publications.....W. F. Lanterman
 Attendance.....Aldo Allegretti
 Membership.....C. G. Smith

Abbott, William R.
 Abmeyer, A. S.
 Acott, Maurice Q.
 Adam, George H.
 Alday, Ralph R.
 Alford, Thomas E.
 Allegretti, Aldo
 Allen, Arthur G.
 Allen, Clark N.
 Altpeter, Walter G.
 Anderson, Bert W.
 Anderson, Emil N.
 Anderson, Joseph
 Andrews, Fred O.
 Arnold, George O.
 Artman, Mrs. Margaret E.
 Asmann, Edwin N.
 Ayshford, L. C.
 Bailey, Melville D.
 Baldwin, Edward T.
 Bangs, Edward H.
 Baumel, Erven
 Becher, Clifford C.
 Becker, Donald N.
 Beem, Frederick A.
 Benner, Archie C.
 Bennington, Dorwyn S.
 Benz, Carl W.
 Beranek, Lloyd L.
 Bergland, Floyd E.
 Bergman, Hilder W.

Bergslien, Robert M.
 Bernhard, Leroy F.
 Bills, Frank B.
 Blake, Gerald H.
 Bower, Wells S.
 Bowers, Claude C.
 Boyajian, George E.
 Boyd, John H.
 Bragdon, Harry B.
 Brandenburg, William C.
 Brandt, John W.
 Brasseur, Maurice
 Brazelton, Roy M.
 Brice, William A.
 Brocko, John
 Brosman, Granville P.
 Brown, Dwight L.
 Brown, Ervin M.
 Brown, Gordon W.
 Brown, Samuel K.
 Brown, Lyman L.
 Brunke, Robert R.
 Bryce, William G.
 Budd, Ralph
 Buxton, Bentley L.
 Caldwell, Joseph, Jr.
 Callahan, John J.
 Campbell, David, Jr.
 Carlson, Arthur C.
 Carlson, Ernest A.
 Carlson, Martin F.
 Carnahan, L. B.
 Carraher, Ignatius E.
 Carroll, L. B., Jr.
 Casad, Maurice W.

Case, Nelson P.
 Chabala, Bernard D.
 Chinlund, Daniel K.
 Clyde, John P.
 Cohen, Theodore A.
 Cole, Theodore H., Sr.
 Collins, Joseph F.
 Core, H. H.
 Cota, Leon Arthur
 Cox, Harlow A.
 Cummings, Blaine
 Cunliffe, Paul R.
 Cunningham, Leonard
 Currier, Milton G.
 Dahl, Ernest A.
 Dahl, Oscar J.
 Daly, Robert J.
 Daniel, T. H.
 Danisch, Edwin A.
 Davies, Frank C.
 DeBerard, W. W.
 Dehler, H. F.
 Dehr, William B.
 Dening, R. P.
 Densmore, A. W.
 Dietrich, Otto A.
 Dodds, Earl B.
 D'Olive, Eugene R.
 Doolittle, R. B.
 Dore, Arthur J.
 Dose, H. F.
 Dudley, Wilton R.
 Egeland, R.
 Elder, Clarence H.
 Ellin, Frederick I.
 Enright, Neil F.
 Erickson, Donald H.
 Erickson, Harry A.
 Erickson, Rudolf T.

(Continued on Page 72)

Sections

COMMUNICATIONS

ENGINEERING (CONT'D)

Ewers, Ernest A.
Ewing, Gerald E.
Fako, Paul
Ferguson, William B.
Fink, Minor H.
Flinn, Walter H., Jr.
Fowler, Ralph R.
Franquist, E. E.
Freely, James A.
Froehlich, Robert S.
Fry, August J.
Futrell, William D.
Gabbard, Louis C.
Gerba, Alex, Jr.
Giller, Clyde E.
Giller, William C.
Goetz, Maurus T.
Gordinier, Leonard L.
Gould, G. Frederick
Graham, Lloyd D.
Gray, Kline
Graybill, Kenneth W.
Green, DeWitt C.
Griffiths, Kenneth J.
Groeppe, Gerald W.
Haas, Albert E.
Hall, George S.
Halvorsen, Ralph H.
Hanapel, Alfred J.
Hansen, Donald W.
Hanson, Carl D.
Hanson, Ralph M.
Hanson, Robert M.
Harmas, Kearney E.
Harmon, Robert N.
Harrington, Stephen W.
Harris, H. A.
Hartman, John W.
Hartsell, Theodore D.
Hasselbacher, H. H.
Haugan, John R.
Hausler, M. G., Jr.
Havlic, Arthur C.
Heaney, Thomas R., Jr.
Heidenrich, W. G.
Herr, Clarence C.
Herron, James C.
Hershey, Harry E.
Herz, Alfred
Hill, Cyrus G.
Hillis, George C.
Hoffstetter, G. E.
Hollander, George J.
Hollingsworth, Frank H.
Holm, Gltave R.
Holmquest, Harold J.
Holzbach, Robert L.
Hoover, Blaine, Jr.
Hoppesch, John W.
Howard, Carl G.
Howard, Kenneth J.
Howe, Wilfred C.
Huebner, Charles A.
Hufnagel, Walter P.
Hughes, Robert J.
Hullinger, R. W.
Hurlbut, H. D., Jr.
Iwema, Bernard
Jackson, Charles E.
James, Virgil E.
Jelinek, Otto K.
Jennett, Harold P.
Jessup, Richard D.
Johnson, Carl V.
Johnson, Ernest H.
Johnson, Hubert J.
Johnson, Leonard E.
Johnson, Norman A.
Kahler, William V.
Keith, Leigh S.

Kellenberger, K. E.
Kendall, Richard G.
Kentner, Richard D.
Kessie, Edgar S.
Keyes, George G.
King, John E.
King, Raymond B.
Klammer, K. K.
Knecht, Walter G.
Knittle, Gale L.
Knuth, Wilfred F.
Kotiza, Edward
Kowal, John A.
Kreishimer, John
Kreml, Frank
Krick, Robert M.
Kuhn, Francis H.
Kurinsky, John S.
Kurtz, W. O.
Ladd, James A.
Lagerstrom, Harry
Lair, Jack R.
Lallier, Paul R.
Landry, George A.
Lang, William J.
Lange, William W.
Lanternman, W. F.
Larsen, Olav R.
Larson, Einar F.
Lavigne, Hilaire J.
Lawton, Jack W.
Le Baron, T.
Levin, Carl A.
Lomax, C. E.
Longerbeam, Charles W.
Lovell, Edward L.
Lowden, Virgil E.
Lowrey, Ernest R.
Luecker, F. A.
Lund, A. B.
Lundgren, Victor
Luttgens, Howard C.
Lynskey, J. Philip
Lyon, William D.
McCreary, Harold J.
McCreary, Watson B.
McJohnson, Claude A.
McLane, John D.
McMinds, Peter J.
McNulty, Daniel H.
McShane, Joseph A.
Magnuson, H. D.
Mahnke, E. Chris.
Mahoney, Harry P.
Marsh, Edward J.
Marshall, S. C.
Mason, A. W.
Medeen, Howard E.
Mee, Sherwood E.
Merrill, Reginald D.
Meyer, John J.
Miller, Carl G.
Miller, C. Marshall
Miller, Merton R.
Minkus, Fred
Mitchell, A. R.
Mitchell, Jay G.
Mittelmann, Eugene
Moberg, A. R., Jr.
Moore, Daniel E.
Moore, Maurice J.
Mormann, Edwin C.
Morrison, Ray E.
Moseley, Raymond E.
Mote, Thomas H.
Murphy, Mary L.
Neighbour, David J.
Nelson, Arthur E.
Neubauer, E. O.
Nickel, Jack E.
Nieman, Bernard G.
Nilson, Arthur N.
Novotny, George F.
Oberding, Allen J.
O'Connor, Roger R.
Oetzell, Walter A.
Oldenburg, Carl R.
Olson, George E.
Ostline, John E.

O'Toole, William A.
Ovitt, Reginald A.
Papantony, John G.
Parisi, Joseph C.
Parkinson, James A.
Perkins, W. H.
Petersen, Russell W.
Peterson, David C.
Peterson, Reuben F.
Petrie, Alfred E.
Phillips, Guy W.
Plym, Lester M.
Pollenz, Stanley
Potter, William G.
Pringle, Chester L.
Pruess, Earl H.
Pugh, Emerson
Ramusack, Joseph
Rempert, Harold E.
Rice, James W.
Rivenes, A. I.
Roberts, J. K. D.
Roberts, John M.
Robertson, Daniel C.
Robinson, G. G.
Rogers, Donald E.
Rogers, Fred A.
Ross, George B.
Ross, Ralph H.
Rossi, Charles V.
Ruggles, L. L.
Rutter, Joseph R.
Safarik, Edgar R.
St. Germain, Allen E.
Sandeem, Ralph A.
Sanden, T. E.
Saunders, Norman H.
Schermerhorn, E. B.
Schewe, Louis C.
Schmaus, Richard H.
Schmidt, Edmund R.
Schmidt, Edward F., Jr.
Schnetzler, Edward G.
Schoonover, Howard D.
Schuler, R. G.
Schutte, Leo H.
Seaton, George L.
Sedgwick, Frederick W.
Seibt, William J.
Selander, K. W.
Sener, Charles J.
Shaver, A. G.
Shuman, Alton B.
Shumway, Noble C., Jr.
Simans, Irwin W.
Sipp, Thurman L.
Slomka, Joseph
Smith, Arthur Bessey
Smith, C. G.
Smith, O. G.
Snowdon, Edward N.
Sorber, Gilbert
Spencer, John P.
Springbrunn, Gilbert P.
Spurling, L. M.
Stang, Lester R.
Stevens, Charles J.
Stewart, James A.
Stewart, Robert J.
Stone, Bernard L.
Stone, W. E.
Stump, Robin D.
Svenson, J. Harold
Swan, L. L.
Swanson, Carl E.
Switzenberg, Elmer A. F.
Tamminga, Ernest D.
Todd, Samuel R.
Tolar, James H.
Townsend, Harvard C.
Tucker, Stanley W.
Turner, John B.
Unruh, George F.
Vallette, Frederic F.
Valvoda, Frank R.
Van Weelden, M. J.
Varenhorst, Francis G.
Voss, Irwin N.

(Continued on Page 73)

ELECTRICAL ENGINEERING SECTION

Chairman.....Ernest A. Dahl
 Vice Chairman.....V. E. McCallum
 Publications.....V. E. McCallum
 Attendance.....Harold J. McCreary
 Fellowship.....Wm. J. Behrens
 Membership.....George S. Hall

Abbott, P. J.
 Abbott, William L.
 Abmeyer, A. S.
 Action, V. S.
 Adler, George H.
 Ahlstrom, Walter
 Alday, Ralph R.
 Allegretti, Aldo
 Allen, Arthur G.
 Anderson, H. A.
 Anderson, Oscar E.
 Anderson, Russell E.
 Appelquist, Fred V.
 Appleby, Joseph, Jr.
 Armbrust, George M.
 Armstrong, Emerson A.
 Armstrong, Richard E.
 Arnold, George G.
 Asherman, Albert A.
 Auty, K. A.
 Bailey, Alex D.
 Baldwin, John N.
 Ballenger, W. M.
 Bank, Martin L.
 Baring, John W.
 Barmack, B. J.
 Barr, Frank C.
 Bartlett, George S.
 Batchelder, W. O.
 Battey, Paul L.
 Bauer, Conrad A.
 Bauerschmidt, G. J.
 Beard, Robert D., II
 Beasley, Thomas E.
 Beattie, Stuart C.
 Bechtolt, P. Robert
 Behrens, William J.
 Belding, Leroy S.
 Benetier, Leon E.
 Benz, Carl W.

Communications

(Continued from Page 72)

Wagner, Ralph W.
 Wahlstrom, Robert D.
 Wampler, Charles E.
 Wanderer, Alwin E.
 Waychus, Felix J.
 Weber, John P., Jr.
 Weeks, Gilbert E.
 Weissshappel, B. J.
 West, Gifford B.
 West, Paul B.
 Westburg, Paul A.
 Weston, James E.
 Wetzell, Richard A.
 Wickline, B. O.
 Wilcoxon, Lee
 Wilkens, A. P.
 Willet, G. R.
 Williams, Albert P.
 Wolf, C. Walter
 Woodruff, Albert E.
 Woolsey, Robert S.
 Wootton, John H.
 Worcester, Donald H.
 Yost, Verne W.
 Zenner, Walter J.
 Zermuehlen, H. W.
 Ziemann, Howard C.
 Zink, Maximilian A.
 Zwerg, Harold R.

Bergland, Floyd E.
 Bergslien, Robert M.
 Berthold, Russell E.
 Bethel, Robert L.
 Beutler, Frank E.
 Bilterman, Henry L.
 Bladen, Arthur M.
 Bloss, Daniel E.
 Boeke, Arthur C.
 Bootz, Robert O.
 Boutillier, Stephen G.
 Bower, Wells S.
 Boyer, Quinn O.
 Brasseur, Maurice
 Bronski, Chester R.
 Bruhns, Edward C.
 Bugeon, Russell E.
 Burgee, Joseph Z.
 Burnett, O. F., Jr.
 Burton, Elmer
 Bushman, Andrew K.
 Bushnell, Robert J.
 Butts, Charles A.
 Byrd, Porter J.
 Cahill, John B.
 Caldwell, Joseph, Jr.
 Calvert, John F.
 Cappa, Lawrence B.
 Carnahan, L. B.
 Carter, Howard A.
 Cartland, Silas
 Carver, Francis T.
 Caskey, Arthur D.
 Caswell, Ralph W.
 Cebrynski, Henry
 Clark, William E.
 Clyde, John P.
 Cohen, Theodore A.
 Compton, Arthur H.
 Compton, George R.
 Conrad, Nicholas J.
 Cook, Maurice B.
 Cox, Francis A.
 Cox, Robert D.
 Cresap, Robert S.
 Cunliffe, Paul R.
 Cuny, Howard J.
 Cutler, Byron H.
 Dahl, Ernest A.
 Dailey, James C.
 Danielson, F. D.
 Davies, Vernon L.
 Davis, Abraham
 Davis, John I.
 Davis, Waldo E.
 Dening, Ralph P.
 DeNio, Frederick H.
 Dickey, Diamond S.
 Dienner, John A.
 Dillon, J. Robert
 Dinsdale, David A.
 Dobbert, Bert E.
 Dolgos, Joseph J.
 Doyle, Thomas M.
 Duffy, James F.
 Dunkelberg, Paul
 Eddy, Harold T.
 Egeland, R.
 Elliott, Ernest E.
 Elliott, Wallace W.
 Ellis, Holbert W.
 Ephgrave, John O.
 Epstein, Hirsch
 Eshbach, Ovid W.
 Essington, Harry M.
 Ewald, Leonard E.
 Ewing, Gerald E.
 Eyer, Robert E.
 Farrell, Fred
 Fenton, Lewis T.
 Ferguson, William B.
 Field, Horace H.
 Fitzgerald, Arthur T.
 Fixman, Isadore M.
 Fizzell, James A.
 Florentine, F. D.
 Floyd, William H., III
 Foster, Edmond R.
 Fowler, Edwin J.
 Fowler, Myron M.
 Fox, E. Gordon
 Fox, John P.
 Froehlich, Robert S.
 Fry, August J.
 Fuller, D. William
 Gaensslen, Carl A.
 Gallagher, John D.
 Gallicchio, Frank V.
 Gates, L. Dean
 Gauthier, William D.
 Gear, Harry B.
 Gibson, Floyd D.
 Gilbert, Henry C.
 Giller, Clyde E.
 Giller, William C.
 Gilman, Brice E.
 Goldstein, Milton
 Goodell, Stanley E.
 Graf, William, Jr.
 Gray, Kline
 Green, George E.
 Griffith, Leonard F.
 Gritschke, Elmer R.
 Grover, Earle W.
 Gruoner, P. M.
 Grydyk, Edmund J.
 Gustavsson, Gustav E.
 Hall, Frank B.
 Hall, George S.
 Halperin, Herman
 Halvorsen, Ralph H.
 Hampe, George W.
 Hanson, Carl D.
 Hanson, Robert M.
 Harmas, Kearney E.
 Harmer, Leonard S.
 Haugan, John R.
 Haugland, Sigurd
 Hayburn, Thomas F.
 Haynes, Albert G.
 Haynes, Charles J.
 Heller, William D.
 Hendrickson, E. R.
 Heniades, James
 Henneman, F. G.
 Herron, James C.
 Hershey, Harry E.
 Herz, Alfred
 Hesky, Edward A.
 Heuman, Carl L.
 Hewett, Ernest E.
 Hieronymus, John W.
 Hieronymus, R. E.
 Hill, Ole A., Jr.
 Hobson, J. E.
 Hodtum, Joseph B.
 Hoeppner, Henry L.
 Hoff, Herbert C.
 Holm, Gustave R.
 Holmquest, Harold J.
 Hopkins, Arthur E.
 Horner, Kenneth R.
 Horstmann, Roy J.
 Howard, Carl G.

(Continued on Page 74)

Sections

ELECTRICAL ENGINEERING (CONT'D)

(Continued from Page 73)

Howe, Wilfred C.
Huebner, Charles A.
Humiston, John F.
Humphrey, Stanley M.
Hunt, Henry J.
Hute, Leonard J.
Imhoff, Eldon A.
Jackson, Dugald C., Jr.
James, Virgil E.
Jameson, William
James, Leonard R.
Jaques, Cloyce A.
Jehlicka, L. J.
Jensen, Otto L.
Johnson, Dellmar G.
Johnson, Frederick B.
Johnson, G. Robert
Johnson, Leonard E.
Johnson, Nils E.
Johnson, Wilbur C.
Jorgensen, Axel C.
Jorgensen, George L.
Joslin, Murray
Julian, Victor H.
Kawiecki, Chester J.
Kayser, Harry C.
Keith, Leigh S.
Keller, Henry W.
Kenneally, M. M.
Keoughan, Laurence
Ketel, Carl G.
Kilstofte, Irving N.
King, Arthur C.
King, John E.
Klammer, K. K.
Knittle, Gale L.
Knecht, Walter G.
Kinney, Lowell K.
Kirk, Ivan M.
Kovar, Joseph F.
Krohn, Howard G.
Kucho, Joseph, Jr.
Kuhn, Francis H.
Kurtz, W. O.
Lair, Jack R.
Lallier, Paul R.
Lane, F. H.
Lang, George A.
Larsen, Olav R.
Larson, Melville N.
Lauritsen, Clarence N.
Lavigne, Hilaire J.
Leasure, Elmer E., Jr.
LeBaron, T.
LeClair, Titus G.
Lennon, Roy R.
Lerch, Charles W.
Levin, C. A.
Lewis, Samuel R.
Lewis, Thomas P.
Lewis, William A., Jr.
Lincoln, Thomas W.
Livingston, John M.
Lockwood, Luther E.
Lomax, C. E.
Loughlin, Michael J.
Lovell, Deward L.
Lucas, Thomas J.
Luick, Adolph J.
Lundberg, Harold H.
Lusher, Miles H.
Lynskey, J. Philip
Lyon, Earle D.
Lyon, William D.
McCallum, Verni E.
McConnell, J. L.
McConnell, William M.
McCreary, Harold J.

McCreary, Watson B.
McNicol, John C.
Magnuson, H. D.
Mahnke, E. Chris.
Malzahn, Lester W.
Marquardt, J. Walter
Marshall, S. C.
Maxson, R. D.
Maxwell, Marvin V.
Mayer, Anton J.
Mee, Charles L.
Merkelz, Frank W.
Merrill, Dot
Merrill, Reginald D.
Miller, Carl G.
Miller, Kenneth W.
Milligan, Leslie W.
Minkus, Fred
Mintz, N. M.
Mitchell, Chester F.
Mitchell, James I.
Mitchell, Jay G.
Mittelmann, Eugene
Mitten, George R.
Montgomery, Martin W.
Moore, Daniel E.
Moosbrugger, Frank J.
Morrison, R. J.
Morrison, R. A.
Morse, Ted B.
Moseley, Raymond E.
Mueller, Fred G.
Munster, Richard A.
Murray, Arthur P.
Nack, Leo W.
Naehr, Harry F.
Nass, Vincent W.
Nelson, Albert L.
Nelson, Charles J.
Nelson, George W.
Nelson, Martin L.
Nelson, William E.
Nickel, Daniel A.
Nickel, Jack E.
Nilson, Arthur N.
Norman, Charles M.
Nowell, K. P.
O'Connor, Roger R.
Ostrander, R. M.
Otto, Harold W.
Paine, Ellery B.
Palmquist, D. W.
Papp, Andrew E.
Pardee, Harvey S.
Parisi, Joseph C.
Parkinson, James A.
Parrott, John R.
Pearson, Harold T.
Perkins, W. H.
Perry, Wm. A.
Petersen, Melvin L.
Petersen, Russell W.
Peterson, David C.
Peterson, Ralph S.
Peterson, Vernon A.
Petrie, Alfred E.
Pettersen, H. C.
Piepho, Edward E.
Pierce, J. N.
Pollak, Manfred J.
Post, Clifford W.
Potocki, John H.
Preschern, W. G.
Pugh, Emerson
Putnam, Wilton E.
Racheff, Theodore H.
Raider, George K.
Raisch, Charles F.
Reace, William T.
Rehm, Frank J.
Reichard, Lester H.
Reynolds, I. L.
Richards, H. J.
Richardson, B. R.
Ritter, Albert S.
Roasa, Hubert L.
Roberts, John K. D.

Rogers, Charles G.
Rogers, Edgar
Rogers, Fred A.
Rose, Edmund G.
Rosenthal, Fred S.
Rossi, Charles V.
Roth, Edward H.
Ruddock, Raymond
Safarik, Edgar R.
St. Pierre, Lowell C.
Salle, W. H.
Sammons, Frank D., Jr.
Sanda, Laddie A.
Sanford, Frank E.
Savage, Herbert
Schaibly, Harold M.
Schaller, W. F.
Schaller, W. F.
Schiffer, Joseph A.
Schmaus, Richard H.
Schmidt, Paul O.
Schmidt, Robert B.
Schofield, Wilfred C.
Schuler, Reginald G.
Seaman, Richard P.
Seibt, William J.
Shaver, A. G.
Shaw, Howard D.
Simans, Irvin W.
Simpson, John R.
Skylingstad, Dale E.
Slack, William E.
Slocum, Harold H.
Smeby, Rudolph P.
Smedley, Glenn B.
Smith, Dwight L.
Smith, Edward R.
Smith, Harold E.
Smith, H. K.
Smith, John R.
Smith, K. M.
Smith, O. G.
Springbrunn, Gilbert P.
Stanley, A. H.
Starkovich, John F.
Stelter, William L.
Stoler, S. B.
Stoos, Joseph A.
Streicher, Irving H.
Svenson, J. Harold
Tausig, Wm. S.
Taylor, Orin H.
Terry, William H.
Thielke, Alvin
Thornton, W. E.
Thorsen, Harry T.
Thrane, Gilman
Tideman, S. N.
Tingley, E. M.
Todd, Samuel R.
Tornquist, E. L.
Towle, James H.
Tripp, Albert L.
Trotter, James M.
Troxel, F. D.
Turner, Ralph E.
Tyrrell, W. J.
Valvoda, Frank R.
Van Aken, Cordon R.
Van Valkenburg, Henry V.
Van Weelden, M. J.
Vavrinek, LeRoy J.
Vinet, Eugene
Wadsworth, W. J.
Warren, Albert R.
Waters, John M.
Watschke, Arthur
Way, John S.
Waychus, Felix J.
Wedgwood, John L.
Weiner, R. S.
Weissappel, B. J.
Weldy, Lawrence L.
West, Paul B.
Westburg, Paul A.
Whitehead, L. E.

(Continued on Page 75)

FIRE PROTECTION AND SAFETY ENGINEERING SECTION

Chairman.....F. W. Spalding, Jr.
Vice Chairman.....C. S. Ziolkowski
Program.....Russell E. Johnson
Publications.....Walter S. Helmer
Attendance.....Elmer F. Reske
Membership.....Bolton G. Anderson

Ahern, John J.
Alford, Thomas F.
Anderson, Bolton G.
Anderson, Oscar E.
Arnet, Robert
Aronstam, Milton S.
Bechtolt, P. Robert
Bernard, Cecil O.
Bonham, John D.
Brelie, George O.
Bunker, G. T.
Burkey, Mack G.
Butcher, Harry F.
Carlson, Arthur C.
Casley, Lee T.
Corboy, John A.
Crawford, Mary A. E.
Cuny, Howard J.
Dahlgren, William J.
Darrow, Frank T.
De Boer, Herman O., Jr.
Denning, Ralph P.
Dinsdale, David A.
Dolgos, Joseph J.
Engler, Charles
Fairbairn, W. J.
Flook, Lyman R.
Floor, Erik

Foschinbaur, L. A.
Froehlich, Robert S.
Fruechtel, Joseph H.
Fuhrer, Max
Whiting, Fred T.
Gallagher, John D.
Gavin, Richard I.
Gellert, Louis W.
Gent, Abel H.
Golick, Richard
Goodman, Edwin M.
Griesel, Mrs. M. F.
Grydyk, Edmund J.
Gustavsson, Gustav E.
Hanson, Carl D.
Hauth, Chester W.
Helmer, Walter S.
Hendrickson, E. R.
Hieronymus, R. E.
Hopkins, Robert S.
Hoppesch, John W.
Jens, Arthur H.
Johnson, Charles A.
Johnson, Halvard T.
Johnson, Russell E.
Junkins, John N.
Just, James W.
Keith, Laurence P.
King, Arthur C.
Knehans, William H.
Knight, Robert
Krol, Leonard W.
Kuffel, W. F.
Kuhn, Francis H.
Labes, Willis G.
Larsen, Arnold B.
Lewis, Richard J.

Long, Samuel P.
Lowrey, Ernest R.
Lurie, Erwin M.
McConnell, J. L.
Manchee, R. P.
Merrill, Reginald D.
Miller, Edward
Nelson, Edwin F.
Normann, Carl
Nowell, K. P.
O'Brien, William P.
Olson, Howard R.
Peeney, Georgiana H.
Perry, Wm. A.
Peterson, Robert C.
Poedtke, Carl H.
Reilly, Lawrence E.
Reske, Elmer F.
Ruetter, Carl J.
Runde, Edgar
Schad, James A.
Schipper, Richard C.
Schirmer, Robert W.
Schmidt, Norman E.
Sedwick, H. P.
Seidensticker, F. W.
Shapiro, Benjamin B.
Shuman, E. C.
Smith, Earl J.
Smith, Frederick C.
Snow, Frank W.
Spalding, F. W., Jr.
Swanson, Carl E.
Tingley, C. Ned
Trees, Merle J.
Van Trump, Roderick
Ward, James J.
Wayne, A. Alvin
Weston, James E.
Whipple, Willis Z.
Williams, Sidney J.
Wilson, Joel R.
Wootton, John H.
Yerges, Lyle F.
Ziolkowski, C. S.

ELECTRICAL (CONT'D)

(Continued from Page 74)

Whitney, Richard A.
Whitton, A. Wm.
Wieboldt, R. C.
Wiemers, George H.
Wilcoxon, Lee
Wilczewski, Stanley J.
Wild, Earle
Wilde, Richard D.
Williams, Earle C.
Williams, George M.
Williams, Stanley E.
Wingfield, Clarence A.
Wishard, William W.
Wolf, C. Walter
Wolff, Edward J.
Woloshin, Boris
Wood, David P.
Woodruff, Albert E.
Wooton, John H.
Worcester, Donald H.
Wuellner, Wm. W.
Wulfging, H. E.
Wysockey, L. F.
Yarline, Frank W.
Yexley, S. A.
Yonkers, Edward H.
Yost, Verne W.
Young, Albert Miller
Young, R. E.
Zane, Robert B.
Zermuehlen, H. W.
Zettek, Frank
Zonsius, Lester J.
Zwerg, Harold R.

GAS, FUELS AND COMBUSTION ENGINEERING SECTION

Chairman.....Kenneth Williams
Vice Chairman.....A. G. Soderholm
Publications.....Lee G. Bird
Attendance.....George A. Morgan
Membership.....Frederick C. Hensel

Ahern, John J.
Anderson, H. A.
Appleby, Joseph, Jr.
Bailey, Alex D.
Banta, John S.
Bedell, Kenneth H.
Behr, Ralph K.
Bennett, Howard O.
Benson, Allen A.
Berzelius, Carl E.
Bettle, W. H.
Biddison, P. McDonald
Bigelow, Charles G.
Billow, E. E., Jr.
Bird, Lee G.
Bird, Samuel E.
Bladen, Arthur M.
Bloss, Daniel E.
Blye, Eugene N.
Born, Paul L.

Brogan, Joseph E.
Bucher, Edmund V.
Burkroes, James E.
Burns, James, Jr.
Cebzynski, Henry
Cheney, Seymour W.
Coe, Russell H.
Cohen, Theodore A.
Connor, Ronnoc H.
Culp, Edwin R.
Cunliffe, Paul R.
Danielson, F. D.
Diener, John A.
Domville, C. H., Jr.
Druhan, John L.
Dunkelberg, Paul
Ellerton, George, Jr.
Enander, E. H.
Ephgrave, John O.
Erickson, Harry A.
Euler, Fred C.
Faville, Frederick A.
Field, Edward A., Jr.
Field, Horace H.
Filippi, Hugo
Foit, Otto L.
Foster, Edmond R.

(Continued on Page 76)

Sections

GAS, FUELS AND COMBUSTION (CONT'D)

(Continued from Page 75)

Gellert, Louis W.
Gilroy, Edward
Gleick, Joseph T.
Goodman, William E.
Grindel, John F.
Grydyk, Edmund J.
Haugan, John R.
Havens, George
Hayden, Carl F.
Haynes, Albert G.
Heller, William D.
Heneham, Paul V.
Henness, Charles F.
Hensel, Frederick C.
Herz, Alfred
Hinch, Ralph J.
Hirth, Raymond C.
Hoban, Charles O.
Hoff, Herbert C.
Hovland, Carlot B.
Hupp, Vernon E.
Janett, Leslie G.
Jensen, Otto L.
Johnson, Hjalmar W.
Jones, James R.
Jones, Roy E.
Jorgensen, Axel C.
Kalk, Albert C.
Keller, Henry W.
King, Arthur C.
Kliment, William P.
Koepke, Frank H.
Kostenko, Barry M.
Kraft, Robert E.
Kuhn, Francis H.
Labes, Willis G.
Lair, Jack R.
Larson, Peter L.
Leighton, M. M.
Lewis, Sam R.
Loughlin, Michael J.
Lucas, Thomas J.
Luick, Adolph J.
Lungren, Edgar E.
Markle, W. G.
Mee, Charles L.
Meiller, Daniel V.
Merrill, Dot
Merrill, Reginald D.
Miller, Donald W.
Moore, Charles A.
Morgan, George A.
Murphy, Clarence R.
Naehr, Harry F.
Nagler, K. B.
Nalbach, John R.
Nelson, Edwin F.
Nelson, Robert M.
Normann, Carl
Parmely, J. C.
Penn, Harry J.
Perry, William A.
Peterson, David C.
Pettyjohn, E. S.
Phelps, Marion A.
Pohlmann, Edward F.
Pratt, Charles A.
Purcell, Theodore V.
Robinson, Thomas G.
Roth, Edward F.
Ruddock, Raymond
Ruggles, W. S., Jr.
Rushton, J. Henry
Russell, J. D.
Salzman, W. B.
Sampson, Alexander E.
Schroeder, Bernhard

HYDRAULIC, SANITARY AND MUNICIPAL ENGINEERING SECTION

Chairman.....Paul O. Richter
Vice Chairman.....Ben H. Suhr
Program.....L. E. Langdon
Publications.....Albert L. Tholin
Attendance.....George D. Hardin
Membership.....Harry Lagerstrom

Ackerman, Robert H.
Adams, Luther
Albright, George M.
Alperin, Moses
Alswede, Louis E.
Andersen, Mads C.
Anderson, James S.
Anderson, Robert H.
Anderson, Robert L.
Andrew, C. R.
Armstrong, J. B.
Armstrong, L. W.
Arnold, Clarence C. W.
Ashley, Clifford A.
Auty, K. A.
Ball, C. E.
Ball, John P.
Barker, L. B.
Baronet, John K.
Bartz, Harry J.
Baylis, John R.
Baylor, C. L.
Becker, Donald N.
Beckman, Leroy J.
Bennett, J. Gardner
Benson, Charles E.
Bentz, Clarence L.
Bethel, Robert L.
Bird, Byron
Blanchard, Murray

Schwalm, H. E.
Sedgwick, Frederick W.
Sedwick, H. P.
Sheehan, Edward D.
Simpson, Arthur R.
Simpson, George N.
Smith, Earl J.
Snook, Wilbur L.
Soderholm, A. C.
Stauss, R. O.
Swanson, Carl E.
Toennies, Adlai K.
Toreky, Zoltan G.
Tornquist, E. L.
Trees, Merle J.
Turner, Ralph E.
Tuttle, L. W.
Van Trump, K. S.
Van Trump, Roderick
Voskuil, Walter H.
Wachs, Edward H.
Wade, Irving L.
Wasson, Theron
Weicker, Philip C.
Weinstein, Norman
Weston, James E.
Wilkinson, Cyril J.
Williams, Kenneth
Williams, W. Owen
Wilson, Thomas
Witt, J. C.
Wolfe, Thomas F.
Zoeter, Homer B.

Blumberg, Maurice D.
Blye, Eugene N.
Boardman, Harry C.
Boardman, Horace P.
Bootz, Robert O.
Bowman, George L.
Brilhart, Carl E.
Bulot, Francis H.
Burdick, Charles B.
Burkey, Mack G.
Cahill, James F.
Cather, LeRoy H.
Cehan, Eugene G.
Chambers, Connor J.
Cabattari, E. J.
Clark, Raymond W.
Conger, Jacque B.
Cooper, F. F.
Corboy, John A.
Cotter, William M.
Cox, Clifford B.
Craig, Leon C.
Cunliffe, Paul R.
Cunnea, Joseph P.
Dahlgren, William J.
Dartsch, Frederick A. L.
Davis, Cecil C.
DeBerard, W. W.
Dee, Marvin R.
Dexheimer, Roy B.
Dillon, J. Robert
Dopp, Carl A.
Dopp, Kenneth T.
Dose, H. F.
Downes, William E., Jr.
Draffin, Jasper O.
Duke, Charles S.
Dunn, Andrew C.
Eaton, George S.
Edwards, F. W.
Eilers, Baldwin C.
Ek, Thomas I.
Enger, Melvin L.
Everly, Robert E.
Fairhall, William M.
Ferguson, Lester M.
Filippi, Gottlieb
Fixmer, Hugh J.
Fletcher, Edgar N.
Flood, Walter H.
Flook, Lyman R.
Floryan, J. E., Jr.
Ford, Tenney S.
Fosco, Alfred
Fosnot, Harold R.
Frame, Richard P.
Frost, Oscar
Galandek, John
Gavin, Richard J.
Gellert, Louis W.
Gerber, Winfred D.
Girard, Peter F., Jr.
Golick, Richard
Gonnerman, H. F.
Gordon, F. G.
Gould, Harry
Greeley, Samuel A.
Griffith, Leonard F.
Gritschke, Elmer R.
Gross, Ralph F.
Haldeman, Walter S.
Hall, Mertin G.
Hardin, George D.
Harger, Kendrick
Harman, Jacob A.
Harmer, Leonard S.
Harza, L. F.
Haugland, Sigurd

Hauth, Chester W.
 Havens, George
 Hayden, Carl F.
 Hedges, Henry M.
 Hempelmann, Walter L.
 Hendrickson, E. R.
 Hess, Frederick A.
 Hohner, Fred W.
 Hopkins, Robert S.
 Horner, Harold E.
 Howard, Edwin A.
 Howson, Arthur W.
 Humiston, John F.
 Hunt, Henry J.
 Jackson, George L.
 Jacobs, J. L.
 Jardine, James W.
 Jelinek, Ernest
 Jelinek, Otto K.
 Jenkins, Carter
 Jeppeson, Gunni
 Johnson, Albert W.
 Johnson, Charles A.
 Johnson, Herman G.
 Joseph, Marvin M.
 Kaufman, Morris B.
 Keith, Arthur W.
 Keoughan, Lawrence
 Kinney, William M.
 Kliment, William P.
 Knabe, Robert H.
 Kneer, Vernon R.
 Knight, Robert
 Koch, Albert A.
 Koeberle, Harold J.
 Kohout, George W.
 Kostenko, Barry M.
 Krass, Hymen H.
 Krause, Robert
 Kreml, Frank
 Kreutzburg, Arthur R.
 Kuhn, Francis H.
 Lagerstrom, Harry
 Lamb, Carter H.
 Langdon, Lawrence E.
 Larsen, Peter M.
 Lawrence, Clara E.
 Leighton, M. M.
 Lewis, Sam R.
 Lindquist, Bert S.
 Loebe, Roy A.
 Luce, Arthur T.
 Luedeking, Robert T.
 Lydon, Eugene K.
 McHugh, C. G.
 McKenney, James R.
 McLean, C. J.
 McNew, Delbert R.
 MacDonald, Reed I.
 MacMillin, Howard F.
 Madgouranis, George C.
 Marsh, Don E.
 Marx, Lester M.
 Mason, William C.
 Mathews, William W.
 Mayer, Paul R.
 Merriman, Chester F.
 Metzger, Clifton J.
 Miller, Gail L.
 Mitchell, A. R.
 Montblanc, E. P.
 Mueller, Fred G.
 Mulford, Edgar T.
 Naehr, Harry F.
 Nankivil, R. M.
 Nelson, Carl E.
 Nelson, Morris O.
 Nitsche, Edward A.
 O'Brien, Kenneth W.
 Olsen, Ernest H.
 Olson, Howard R.
 Page, Peter M.
 Pasquinelli, S.
 Pearse, Langdon
 Pearson, Elmer I.
 Peeney, Georgiana H.
 Peterson, Curtiss J.
 Peterson, David C.

Pflanz, Erne
 Polk, Wesley W.
 Poole, Frederick M.
 Poppe, Charles A.
 Potter, W. G.
 Prager, F. D.
 Raisch, Charles F.
 Ramey, Horace P.
 Reece, R. H.
 Reichle, F. G.
 Richter, Paul O.
 Ritchie, James F.
 Rogers, Fred A.
 Ronningen, Helmer A.
 Rose, William E.
 Rosenthal, Fred S.
 Ross, Herman M.
 Ruggles, W. S., Jr.
 Rusch, Erwin G.
 Sale, Frank A.
 Santina, William J.
 Schafmayer, A. J.
 Schlinz, Herman W.
 Schmidt, Norman E.
 Schmitz, Carl Edward
 Scott, Robert G.
 Seymour, Charles W.
 Skinner, S. J.
 Spiegel, Milton
 Stewart, Charles E.
 Storey, Donald G.
 Swanson, Carl E.
 Swenson, Alfred H.

Taylor, Orin H.
 Tholin, Albert L.
 Thompson, Russell A.
 Toennies, Adlai K.
 Towne, John W.
 Trees, George S.
 Trees, Merle J.
 Trinkaus, George J.
 Tucker, Belden S.
 Van Gorp, Dick
 Van Trump, K. S.
 Van Trump, Roderick
 Ventrella, Angelo D.
 Vetterick, Arthur C.
 Wade, J. William
 Walker, Reno R.
 Wallace, Dwain M.
 Wardle, Andrew N.
 Wasson, Theron
 Weber, Emil A.
 Weinstein, Norman
 Wells, Arthur H.
 Wells, E. Roy
 Wendell, Everett J.
 Wicks, C. H.
 Wight, Raulin B.
 Wohlgenuth, John F.
 Wolfe, Thomas F.
 Wood, Donald G.
 Woselowsky, George S.
 Wundrach, Louis
 Young, J. L.
 Zettek, Frank
 Ziebold, Eugene H.

MECHANICAL ENGINEERING SECTION

Chairman.....H. H. Sonderegger
 Vice Chairman.....John D. Kinsey
 Program.....Harry A. Erickson
 Publications.....Rex E. Hieronymus
 Attendance.....Jay C. Marshall
 Membership.....Percy Sawyer

Abbott, William L.
 Adams, Harry H., Jr.
 Adams, Theodore J.
 Adler, Howard R.
 Alven, Alfons
 Anda, L. S.
 Andersen, Charles H.
 Anderson, H. A.
 Anderson, Oscar E.
 Anderson, Russell E.
 Andrews, Edward L.
 Arens, Albert H.
 Armstrong, Emerson A.
 Auty, K. A.
 Bacon, R. H.
 Bagnard, Ernest A.
 Bailey, Alex D.
 Ballinger, Walter E.
 Banta, John S.
 Barber, Thomas C.
 Bardwell, Allen E.
 Basler, George R.
 Bates, Walter A., Sr.
 Bates, Walter A., Jr.
 Battey, Paul L.
 Bautz, Fredrick
 Becker, August E.
 Beckman, LeRoy J.
 Bedell, Kenneth H.
 Beebe, Horace M.
 Behr, Ralph K.
 Benetier, Leon E.
 Bennett, Howard O.
 Benson, Allen A.
 Benson, Earle G.
 Benz, Carl W.
 Berkenblit, S. E.
 Bessett, Clifford H.
 Bethke, Philip H.
 Bigelow, Charles G.
 Bigelow, Royal G.
 Binford, W. H.

Bird, Lee G.
 Bixby, Griffith S.
 Bladen, Arthur M.
 Blair, James H.
 Blye, Eugene N.
 Boardman, Harry C.
 Bockman, Theodore
 Boersma, William
 Boome, Alexander, Jr.
 Booss, Theodore B.
 Bottrill, David H.
 Bouse, Edward J.
 Boutilier, Stephen G.
 Bower, Wells S.
 Boye, Max R.
 Bramsen, S.
 Brater, Bernard H.
 Brilhart, Carl E.
 Brinker, Robert W.
 Brizzolara, C. A.
 Brock, Edison
 Brogan, Joseph E.
 Brooks, Charles C.
 Brown, Joseph H.
 Bucher, Edmund V.
 Budd, Ralph
 Bunker, G. T.
 Burdick, Charles B.
 Burgee, Joseph Z.
 Burger, S. A.
 Burkross, James E.
 Burroughs, Kenneth L.
 Campbell, J. Alan
 Carlson, Ernest C.
 Carlson, Gordon V.
 Carlson, Warren W.
 Carlson, Wendell
 Carnahan, L. B.
 Carter, Howard A.
 Cartland, Silas

(Continued on Page 78)

Sections

MECHANICAL ENGINEERING SECTION (CONT'D)

(Continued from Page 77)

Casad, Maurice W.
Cebzynski, H. J.
Chambers, Lynton H.
Cheatle, Edwin L.
Chipley, Alfred S.
Clark, Daniel E.
Clark, Raymond W.
Clark, William E.
Clyde, John P.
Collatz, William
Collins, Walter S.
Compton, Arthur H.
Conger, Jacque B.
Conners, Harold C.
Connor, Ronnoc H.
Conway, Edward F.
Cook, G. Gordon
Cook, Maurice B.
Cook, Oswald J.
Cooke, Robert E.
Cottrell, Robert B.
Cox, Claude E.
Crowell, Milton E.
Cuny, Howard J.
Darke, Frank S.
Darling, Paul W.
Davis, Louis R.
DeCarlo, Daniel J.
Derrom, Donald L.
DeWolfe, Edward C.
Dienner, John A.
Dingle, Gordon K.
Dobbert, Bert E.
Doering, Heniz G.
Dopp, Carl A.
Dring, George W.
Druhan, John L.
Duffy, James F.
Duner, Joseph A.
Dunn, Frederick
Ellertson, W. R.
Ellin, Fred I.
Elliot, Jefferson B.
Enander, John O.
Eneborg, Carl G.
Engquist, E. B.
Epstein, Hirsch
Erickson, A. G.
Erickson, Harry A.
Erickson, Ray F.
Erjavac, Anthony J.
Eshbach, Ovid W.
Euler, Fred C.
Everhard, E. P.
Fahey, William M.
Fajnor, Edward
Faville, Frederick A.
Ferguson, L. A., Jr.
Ferguson, William B.
Fetters, Donald W.
Findlater, William E.
Finlay, Samuel
Flook, Lyman R.
Foit, Otto L.
Ford, Frank E.
Fuhrer, Max
Gaensslen, Carl A.
Galandek, John
Gansslen, H.
Garlick, David J.
Garrison, Charles K.
Gavin, Richard I.
Gawin, Stanley W.
Ghiselli, W. A., Jr.
Gibson, Floyd D.
Giles, Arthur G.
Gilroy, Edward
Glick, Joseph T.

Godfrey, Charles E.
Goetz, Edwin W.
Golden, Milton E.
Goldman, Bennett F.
Goodwin, L. Reeves
Goss, Hugh A.
Gougler, J. H.
Graf, William, Jr.
Grant, Richard J.
Grayson, Frank M.
Green, George E.
Greene, William K.
Greenhill, Harold
Greenstein, Jerome
Griffin, Sidney P.
Griffith, Leonard F.
Gritschke, Elmer R.
Grover, Donald K.
Groves, J. Osborn
Grundvig, K. E.
Gruoner, P. M.
Grydyk, Edmund J.
Guillemin, Victor
Guske, James A.
Gutgsell, Lee M.
Guynn, N. P.
Habel, B. Ralph
Habenicht, George C.
Hadsall, John M.
Haeffner, John G.
Hall, Charles F.
Halvorsen, Ralph H.
Harmer, Leonard S.
Harris, Alfred E.
Hartzell, Emory F.
Hartzler, Melvin E.
Haugan, John R.
Hayden, Carl F.
Haynes, Albert G.
Haynes, Charles J.
Heller, William D.
Hellsen, Karl
Herman, Herbert H.
Hermansen, Henry M.
Herz, Alfred
Hess, Bryce M.
Hess, Robert Adair
Hesse, Herman C.
Hewson, J. F.
Hill, Charles O.
Hill, Theodore E.
Hinch, Ralph
Hirth, Raymond C.
Hoban, Charles O.
Hodgson, J. G., Jr.
Hoff, Herbert C.
Hoffenberg, Nathan
Hoffman, Leonard M.
Hoffman, Milton
Hollander, George J.
Holmquest, Harold J.
Hopkins, Edward J.
Hopley (Miss), R. M.
Houser, Arthur M.
Houser, A. M., Jr.
Hoyle, Robert L.
Hubbell, Clifton H.
Huff, Julius
Humiston, John F.
Hupp, Vernon E.
Hussman, Carl
Hussman, Carl, Jr.
Irwin, Henry
Isel, T. G.
Jackson, D. C., Jr.
Jacobsmeier, L. B.
Jameson, William
Janett, Leslie G.
Jennings, Donn O.
Jens, Arthur H.
Jensen, Edwin W.
Jensen, Harold L.
Johann, Daniel A.
Johnson, C. Roy
Johnson, Edward P.
Johnson, G. Robert
Johnson, Harley A.

Johnson, Leonard E.
Johnson, Nils E.
Joyce, Joseph L.
Kalk, Albert C.
Karp, Elmer H.
Keller, Robert W.
Kendrick, John F.
Kentner, Richard D.
King, Alexander J.
King, Arthur C.
Kinsey, John D.
Klimczak, Ernest J.
Kliment, William P.
Knittle, Gale L.
Knoebel, Alfred J.
Kobos, Roman L.
Koerberle, Harold J.
Kohn, Robert S.
Kohr, Hilton G.
Koll, Raymond S.
Koller, Robert
Kraft, Robert E.
Krammer, Robert
Krasa, Robert
Krause, Robert
Krauss, Robert E.
Kreda, Samuel W.
Kucho, Joseph, Jr.
Kucinski, William
Kuhn, Francis H.
Kutaj, Walter C.
Lamm, Lloyd F.
Lane, F. H.
Lange, Joseph O.
Lapp, Jack
Latimer, George T.
Leadbetter, Ralph L.
Lee, Chesman A.
Levin, C. A.
Lewis, Fred W.
Lewis, Sam R.
Lewy, Daniel
Lindemann, George E.
Lorber, Seymour J.
Loughlin, Michael J.
Love, Harold G.
Lozins, Neal G.
Lucas, Thomas J.
Luick, Adolph J.
Lurie, Benjamin L.
Lyon, Edward A., Jr.
McCain, Cecil C.
McConnell, J. L.
McConnell, William M.
McCormick, Hubert J.
McCullough, W. T., Jr.
McElhiney, M. Milo
McElroy, Claud E.
McKamy, Paul E.
McKinzie, D. J.
McNamara, Louis G.
Mabie, Don C.
MacMillin, Howard F.
Madson, Howard C.
Magnus, Oscar F.
Maha, Otto J.
Major, Russell E.
Manning, W. L.
Maras, John
Markle, M. G.
Marshall, Jay C.
Maxwell, Marvin V.
May, Matthew M.
Medbery, E. W.
Meissner, John E.
Melnick, Timothy
Merrill, Dot
Merrill, Jed J.
Merrill, Reginald D.
Meschter, E., Jr.
Meyer, Martin
Meyn, Paul F.
Miller, Carl G.
Miller, Donald W.
Miller, Edward A.
Mitzemacher, Erwin

Mooney, John R.
 Moore, Charles A.
 Morgan, F. M.
 Morrison, Alan L.
 Mortara, Holy
 Mueller, Stephen J.
 Mulrenin, John J.
 Murbach, Edward C.
 Naehr, Harry F.
 Nalbach, John R.
 Nelson, Charles, Jr.
 Nelson, Martin L.
 Nessel, Charles M.
 Nill, Raymond
 Nilson, Arthur N.
 Normann, William L.
 Nowell, K. P.
 O'Brien, William P.
 Obszarny, Theodore J.
 Oddo, Dominic V.
 Otten, William H.
 Overmier, Emmons
 Pardee, Harvey S.
 Park, William M.
 Parke, Stanley F.
 Parks, Burritt A.
 Parmely, J. C.
 Peebles, James C.
 Persson, Carl
 Petelle, James F.
 Peterson, B. E.
 Peterson, C. T., Jr.
 Peterson, David C.
 Peterson, Ralph S.
 Phillips, Thurman A.
 Pirola, Louis
 Plambeck, William F.
 Plummer, R. L., Jr.
 Pohl, Hans E. K.
 Pollak, Manfred J.
 Porter, Warren E.
 Pratt, Charles A.
 Pugh, Clyde S. C.
 Purvis, Adrian A.
 Raisch, Charles F.
 Rakosnik, Frank E.
 Rasmussen, Frank
 Redderson, Ernest W.
 Reece, R. H.
 Rehm, Frank J.
 Reichard, Lester H.
 Reichle, F. G.
 Reisse, Donald H.
 Rettaliata, J. T.
 Reynolds, I. L.
 Rice, James W.
 Richardson, B. R.
 Riihimaa, William Arvid
 Roberts, Thomas D.
 Robinson, Thomas G.
 Rogers, Charles G.
 Rogers, Fred A.
 Rosen, Norman A.

Rosenthal, Fred S.
 Ross, William J.
 Rumely, Richard L.
 Russell, J. D.
 Rutherford, Marvin H.
 Salerno, Paul G.
 Salzman, W. B.
 Sanda, Laddie A.
 Sargent, Ralph
 Sawyer, Percy
 Sayers, Robert P.
 Schlinz, Herman W.
 Schmidt, Casper N.
 Schmitz, Carl Edward
 Schneider, Philip W.
 Schofield, Wilfred C.
 Schrader, Herbert E.
 Schroeder, Bernard A.
 Schroeder, Bernhard
 Schroeder, H. C.
 Schroeder, Serva
 Schubert, Arthur J.
 Schuler, Reginald G.
 Schulze, Franz
 Scott, W. Kenneth
 Seaberg, Robert
 Seamon, Benjamin E.
 Sedgwick, Frederick W.
 Semaitis, Albert J.
 Sepulveda, L. A.
 Shaver, A. G.
 Shuman, E. C.
 Shybekay, Derso
 Simons, Howard A.
 Simpson, Earl B.
 Simpson, George N.
 Skinner, S. J.
 Skog, Ludwig
 Smith, Earl J.
 Smith, Gilbert M.
 Smith, O. G.
 Snepp, Karl M.
 Snyder, Robert A.
 Soderholm, A. C.
 Sokolowski, John J.
 Sommerfield, Sumner A.
 Sonderegger, H. H.
 Spencer, Henry Cecil
 Staley, E. G.
 Stelter, William L.
 Sterling, Gerhard
 Sternaman, Roy A.
 Stoyanov, Alex
 Streicher, Irving H.
 Strickland, W. P., Jr.
 Strid, Oscar W.
 Stuhlfauth, George
 Sues, Roy L.
 Sullivan, John F., Jr.
 Sutherland, William L.

Swanson, Carl E.
 Szypulski, H. M.
 Taussig, Wm. S.
 Taylor, Orin H.
 Tear, Harry R.
 Theilgaard, Harvey L.
 Thomas, Curtis W.
 Tingley, E. M.
 Toennies, Adlai K.
 Tomczak, Casimir A.
 Trumpis, Robert A.
 Tryhuk, Edward
 Tucker, Belden S.
 Turner, Ralph E.
 Twichell, Howard W.
 Ufer, H. W.
 Uitti, Arne E.
 Umeda, Joe
 Vanderpool, A. M.
 Van Trump, K. S.
 Van Weelden, M. J.
 Vierling, Robert L.
 Vogel, Arthur G.
 Wade, Irving L.
 Wade, J. William
 Wagner, John L.
 Wahlin, Fred W.
 Walker, Edwin G.
 Walker, Reno R.
 Walling, R. A.
 Walton, Chas. S.
 Wanderer, Alwin E.
 Waters, John M.
 Watson, Harry P.
 Weiner, R. S.
 Weinstein, Norman
 Weston, James E.
 Whitaker, John A.
 White, Henry G. R.
 Whiting, Fred T.
 Wickstrom, George, Sr.
 Wieboldt, R. C.
 Wild, Earle
 Wilkinson, Cyril J.
 Williams, Kenneth
 Williams, W. Owen
 Wilson, John E.
 Wilson, Thomas
 Wilson, W. H.
 Witt, J. C.
 Wittlinger, Carl A.
 Wood, S. G.
 Wundrach, Louis
 Wyand, John J.
 Wysockey, L. F.
 Young, Martin F.
 Zacher, Clarence H. R.
 Zettek, Frank
 Ziebold, Eugene H.
 Zima, George
 Zimmerman, F. C.
 Zink, Gordon G.
 Zoeter, Homer B.

TRAFFIC ENGINEERING AND CITY PLANNING SECTION

Chairman.....Harry J. Bartz
 Vice Chairman.....Russell J. Newell
 Program.....William R. Marston
 Publications.....Reginald N. Wade
 Attendance.....Victor G. Hofer
 Membership....Raymond W. Hazekamp

Anderson, James S.
 Anderson, Robert H.
 Anderson, Robert L.
 Anderson, Roy H.
 Andrew, C. R.
 Arnold, Clarence C. W.
 Aronstam, Milton S.
 Arvites, George D.

Ashwell, Iris
 Ball, C. E.
 Baronet, John K.
 Bartz, Harry J.
 Baylor, C. L.
 Becker, Donald N.
 Belding, Leroy S.
 Bennett, J. Gardner
 Berzelius, Carl E.
 Bilek, Robert F.
 Bonham, John D.
 Braff, Lloyd M.
 Brinkerhoff, Henry M.
 Brockhausen, Carl E.
 Brown, Norman E.
 Budd, Ralph
 Burke, Ralph H.

Caccavale, Ralph
 Cahill, James E.
 Campbell, J. Alan
 Cather, LeRoy H.
 Chambers, Connor J.
 Cooper, F. F.
 Crawford, Mary A. E.
 Cutmore, Harry S.
 Darrow, Frank T.
 DeBerard, W. W.
 Dee, Marvin R.
 DeLeuw, Charles E.
 Eilers, Baldwin C.
 Ek, Thomas I.
 Erickson, Donald H.
 Ericson, Rudolf T.

(Continued on Page 80)

Sections

TRAFFIC ENGINEERING AND CITY PLANNING (CONT'D)

(Continued from Page 79)

Faville, Frederick A.
Fischer, Paul O.
Fixmer, Hugh J.
Fletcher, Edgar N.
Frost, Oscar
Fry, August J.
Fuhrer, Max
Gerber, Arthur U.
Gerber, Winfred D.
Gilruth, James C.
Girard, Peter F., Jr.
Golick, Richard
Goodman, Edwin M.
Graham, Donald M.
Griesel, Mrs. M. F.
Gross, Ralph F.
Gunlock, Virgil E.
Guy, Erven M.
Habel, B. Ralph
Harger, Kendrick
Haugland, Sigurd
Hausler, M. G., Jr.
Hazekamp, Raymond W.
Hellsen, Karl
Henderson, Frank B.
Hieronymus, R. E.
Hofer, Victor G.
Hopkins, Robert S.
Horneman, Beatrice C.
Howard, Edwin A.
Howell, Horace L.
Jackson, George L.
Jameson, William
Jardine, James W.
Jelinek, Ernest
Jelinek, Otto K.

Jenkins, Carter
Jeppesen, Junni
Johnson, Elmer A.
Jolesch, Walter L.
Jorgensen, George L.
Joseph, Marvin M.
Kaindl, Arthur M.
Keiser, Charles E.
Kelker, R. F., Jr.
Kincaid, H. Everett
Kinney, William M.
Knight, Robert
Knox, Merrill B.
Kostenko, Barry M.
Krambles, George
Kuhn, Francis H.
Lange, Robert N.
Latimer, George T.
Levitsky, Leonid
Lund, E. Vera
McKenney, James R.
McNew, Delbert R.
Madden, Lawrence M.
Magee, Carl T.
Mahnke, E. Chris.
Marston, William R.
Marx, Lester M.
Metzger, Clifton J.
Michel, Ralph F.
Mitten, George R.
Moffat, James D.
Morgan, George A.
Mottier, Charles H.
Mulford, Edgar T.
Nankivil, R. M.
Newell, Russell J.
Nusz, W. G.
Olsen, Ernest H.
Olson, Howard R.
Oneal, Claire E.
Page, Peter M.
Pasquinelli, S.
Peck, Henry C.
Penn, Henry
Perkins, Ruth H.
Peterman, Walter C.
Polk, Wesley W.

Potter, W. G.
Pruess, Earl H.
Rasmus, Walter E.
Reichmann, Albert
Reiter, Edward L.
Rice, Ralph H.
Richter, Harry P.
Reilly, Lawrence E.
Rockwell, Matthew L.
Roepke, Walter
Rose, William E.
Rosen, Norman A.
Ruzich, John L.
Sampson, Alexander E.
Schafmayer, A. J.
Schmidt, Norman E.
Schweitzer, Arthur R.
Seely, Ray
Shanklin, R. J.
Shaver, A. G.
Shaw, Howard D.
Shumway, Noble E.
Sielski, Matthew C.
Simpson, George N.
Snow, Frank W.
Soper, Taylor G.
Spaulding, Robert E.
Steinweg, Carl
Steitz, Gustave J.
Traiser, L. M.
Valvoda, Frank R.
Van Gorp, Dick
Van Trump, Roderick
Vetterick, Arthur C.
Wade, J. William
Wade, Reginald N.
Wallace, W. Wayne
Walling, V. R.
Wardle, Andrew N.
Wells, Arthur H.
Wells, E. Roy
Wight, Raulin B.
Williams, Sidney J.
Wilson, Harry A.
Wood, Donald G.
Wysockey, L. F.
Young, Hugh E.
Zenner, Walter J.

TRANSPORTATION ENGINEERING SECTION

Chairman.....Harry M. Essington
Vice Chairman.....T. C. Fredrick
Program.....M. H. Dick
Publications.....Elbridge G. Allen
Attendance.....Otto K. Jelinek
Membership.....Arthur Anderson

Allen, Elbridge
Anderson, Arthur
Anderson, Robert H.
Anderson, Roy H.
Arenberg, Albert L.
Armstrong, J. B.
Armstrong, W. Scott
Arn, W. G.
Aronstam, Milton S.
Ayshford, L. C.
Bakhshi, S. R.
Bardwell, Allen E.
Battley, Paul L.
Becker, Donald N.
Bell, Charles M.
Bennett, J. Gardner
Bentz, George W.
Benz, Carl W.
Berzelius, Carl E.
Beutler, Frank E.
Braff, Lloyd M.
Brinckerhoff, Henry M.
Brockhausen, Carl E.
Brumley, D. J.
Burchard, William K.

Burkey, Mack G.
Butcher, Harry F.
Butts, Charles A.
Campbell, J. Alan
Cather, LeRoy H.
Clark, William E.
Clarke, Herbert P.
Cole, Theodore H., Sr.
Colvin, Albert A.
Cook, Robert A.
Cooper, F. F.
Cottrell, Robert B.
Dailey, Eugene E.
Danielson, F. D.
Dansey, James W.
Darrow, Frank T.
DeBerard, W. W.
DeBoer, Herman O., Jr.
Deckert, J. E.
DeLeuw, Charles E.
Derrom, Donald L.
Dexheimer, Roy B.
Dick, Merwin H.
Dike, Chester T.
Dykstra, Andrew N.
Eaton, George S.
Eilers, Baldwin
Erickson, Harry A.
Essington, Harry M.
Fetters, Donald W.
Field, Horace H.

Fixmer, Hugh J.
Fredrick, Theodore C.
Fritch, Louis C.
Fry, August J.
Fuhrer, Max
Gerber, Arthur U.
Gillespie, Stanley E.
Godfrey, Charles E.
Greasley, Clarence
Gross, Ralph F.
Guy, Erven M.
Guynn, N. P.
Habel, B. Ralph
Hale, Edwin A.
Hand, Geo. W.
Harris, Arthur R.
Henderson, Frank B.
Hershbach, Carl F.
Hess, Frederick A.
Hill, Ole A., Jr.
Hillman, F. W.
Horneman, Beatrice C.
Horner, Harold E.
Howard, Neal D.
Howell, Horace L.
Howson, Arthur W.
Hoyle, Robert L.
Hughes, Lorne J.
Humiston, John F.
Hutchins, John S.
Imhoff, Eldon A.

Jelinek, Ernest
 Jelinek, Otto K.
 Johnson, Elmer A.
 Johnson, Harley A.
 Johnson, Maro
 Jolesch, Walter L.
 Joseph, Marvin M.
 Kaufman, Morris B.
 Keiser, Charles E.
 Kelker, R. F., Jr.
 Kellenberger, K. E.
 Kern, Cecil E.
 Kinne, William S., Jr.
 Knox, Merrill B.
 Korff, Richard C.
 Kostenko, Barry M.
 Krambles, George
 Krass, Hymen H.
 Kuhn, Francis H.
 Lacher, Walter S.
 McComb, R. J.
 McHugh, C. G.
 McNew, Delbert R.
 Maccomb, John deN.
 Magee, Carl T.
 Marston, William R.
 Miller, Carl G.
 Miller, C. Marshall

Miller, Donald W.
 Mitchell, A. R.
 Moffat, James D.
 Mottier, Charles H.
 Mueller, Philip R.
 Nankivil, R. M.
 Nelson, George W.
 Noethling, Clarence M.
 Nusz, W. G.
 O'Brien, Kenneth W.
 Overmier, Emmons
 Palmer, Guy P.
 Pearson, Elmer I.
 Peck, Henry C.
 Penfield, W. H.
 Penn, Harry J.
 Penn, Henry
 Pickens, Reo N.
 Polk, Wesley W.
 Poor, Fred A.
 Potter, Charles R.
 Potter, W. G.
 Raider, George K.
 Raisch, Charles F.
 Rasmussen, Frank
 Reichard, Lester H.
 Rice, Ralph H.
 Ritchie, James F.
 Rusch, Erwin G.

Ruzich, John L.
 Shanklin, R. J.
 Shaver, A. G.
 Shaw, Walter A.
 Smith, Dwight L.
 Smith, H. K.
 Snow, Frank W.
 Soper, Taylor G.
 Steitz, Gustave J.
 Stone, Bernard L.
 Strate, T. H.
 Swanson, Carl E.
 Thompson, M. D.
 Traiser, L. M.
 Van Gorp, Dick
 Van Hook, Wendell A.
 Vetterick, Arthur C.
 Wade, Reginald N.
 Wagner, Harvey F.
 Wallace, V. R.
 Wayne, A. Alvin
 Westenhoff, A. M.
 Wheeler, William C.
 Williams, Sidney J.
 Williamson, Harold W.
 Wilson, Harry A.
 Wolf, C. Walter
 Worcester, Donald H.
 Zink, Maximilian A.

CONSULTING ENGINEERS DIVISION

Chairman.....E. Gordon Fox
 Vice Chairman.....Chas. B. Burdick
 Secretary.....Harold G. Love
 Program.....Frank A. Randall
 Publications.....H. H. Morgan
 Attendance.....W. W. DeBerard

Ackerman, Robert H.
 Ahern, John J.
 Ahlskog, Edwin
 Albright, George M.
 Anda, L. S.
 Anderson, Robert H.
 Armstrong, W. Scott
 Aronstam, Milton S.
 Bailey, George R.
 Bain, A. J.
 Ball, John P.
 Barber, Thomas C.
 Bath, A. Joseph
 Battey, Paul L.
 Becker, Donald N.
 Benson, Earle G.
 Biddison, P. McDonald
 Biggs, E. James
 Bjorksten, Johan
 Bladen, Arthur M.
 Blanchard, Murray
 Boardman, Horace P.
 Brewer, Arthur H.
 Brinckerhoff, Henry M.
 Brown, Norman E.
 Brown, Ray C.
 Bulot, Francis H.
 Burdick, Charles B.
 Burgee, Joseph Z.
 Burke, Ralph H.
 Burroughs, Kenneth L.
 Carnahan, L. B.
 Carter, E. F.
 Cartland, Silas
 Cerling, Fredolph A.
 Cheney, Seymour W.
 Childs, L. C.
 Clabby, James
 Clark, Horace H.
 Clifford, Dell G.
 Cohen, Theodore A.
 Condron, Theodore A.

Cook, G. Gordon
 Cook, Maurice B.
 Coulter, Thomas H.
 Crocker, H. S.
 Crowley, Clyde A.
 Dahlquist, Philip L.
 DeBerard, W. W.
 Deckert, John E.
 Dee, Marvin R.
 DeLeuw, Charles E.
 D'Esposito, Joshua
 Dobry, L. F.
 Druhan, John L.
 Duke, Chas. S.
 Epstein, Abraham
 Erdal, Ingolf
 Fenton, Lewis T.
 Fethers, Donald W.
 Flood, Walter H.
 Florentine, F. D.
 Floto, Julius
 Fox, E. Gordon
 Frandsen, N. P.
 Fritch, Louis C.
 Fucik, Edward J.
 Gerber, Arthur U.
 Giles, Arthur G.
 Goodwin, L. Reeves
 Gordon, F. G.
 Greeley, Samuel A.
 Griffenhagen, E. O.
 Grinter, L. E.
 Gritschke, Elmer R.
 Hamilton, G. W.
 Harman, Jacob A.
 Hartt, Jay S.
 Hartzler, Melvin E.
 Harza, L. F.
 Hastrup, Harold K.
 Hatch, William E.
 Hattis, Robert E.
 Hausler, W. G., Jr.
 Hazekamp, Raymond W.
 Heckel, Ervin J.
 Herz, Alfred
 Hess, Bryce M.
 Hill, Charles O.
 Hill, Cyrus G.
 Hobson, J. E.

Hollander, George J.
 Hooper, William T., Jr.
 Horner, Harold E.
 Howson, Louis R.
 Humphrey, Stanley M.
 Hunt, Henry J.
 Hussman, Carl
 Jacobs, J. L.
 Jenkins, Carter
 Johnson, G. Robert
 Jordan, T. A.
 Joseph, Marvin M.
 Junkins, John N.
 Kelly, Edward J.
 Kerr, Albert W.
 King, Arthur C.
 Knehans, William H.
 Koch, Albert A.
 Kolflat, A.
 Kuehl, Albert J.
 Lewis, Samuel R.
 Lewis, William A., Jr.
 Lipsey, Alexander A.
 Llewellyn, R. C.
 Loewenberg, M. L.
 Love, Harold G.
 Lucas, Thomas J.
 Luick, Adolph J.
 Lundstrom, John E.
 Lurie, Erwin M.
 Lydon, Eugene K.
 McClurg, Verne O.
 McConnell, J. L.
 McCreary, Harold J.
 Macklin, Charles
 MacMillin, Howard F.
 Marquardt, J. Walter
 Marsh, Don E.
 Massey, George B.
 Medbery, E. W.
 Meissner, John F.
 Merrill, Dot
 Merrill, Jed J.
 Merrill, Reginald D.
 Metz, Carl A.

(Continued on Page 82)

Divisions

CONSULTING ENGINEERS DIVISION (CONT'D)

(Continued from Page 81)

Mitchell, Jay G.
Mittelmann, Eugene
Molke, Eric C.
Monroe, Wm. S.
Morgan, H. H.
Mooney, J. R.
Morrison, R. A.
Mortara, Holy
Mulford, Edgar T.
Nalbach, John R.
Nankivil, R. M.
Nelson, Morris O.
Neveling, A., Sr.
Niestadt, George W.
Olsen, Ernest H.
Paine, C. E.
Penfield, W. H.
Penn, Henry
Perkins, W. H.

Pollak, Manfred J.
Post, Chester L.
Prager, F. D.
Putnam, Rufus W.
Raider, George K.
Randall, Frank A.
Randall, Frank A., Sr.
Randlett, Fred M.
Randolph, R. I.
Robinson, T. G.
Rose, William E.
Ross, William J.
Rushton, J. Henry
Salzman, Max M.
Sargent, Ralph
Scaar, Harry
Schulze, Franz
Seaton, George L.
Seely, Ray
Shapiro, Benjamin B.
Shaver, A. G.
Shaw, Walter A.
Sherman, L. K.
Shumway, Noble C., Jr.
Shybekay, Derso
Skog, L.
Simon, Louis I.
Simons, Howard A.
Stern, Isaac F.
Stewart, Charles E.

Strasser, R. J.
Tideman, S. N.
Trumpis, Robert A.
Turner, Ralph E.
Van Hook, W. A.
Van Trump, Isaac
Van Trump, K. S.
Van Trump, Roderick
Wade, J. William
Walker, Reno R.
Warner, William H.
Watson, Harry P.
Webb, C. Earl
Weber, Carl
Wells, Arthur H.
Westcott, C. H.
Wetherell, Dwight N.
Wickstrom, George, Sr.
Wight, Raulin B.
Willet, G. R.
Witt, J. C.
Wohlgemuth, John F.
Wolff, Edward J.
Wolff, Herbert A.
Wright, Wm. Ryer
Young, Hugh E.
Zenner, Walter J.
Ziebold, Eugene H.

ENGINEERING HISTORY DIVISION

Chairman.....William C. Mason
Vice Chairman.....Harold B. Knudsen
Secretary.....Paul L. Battey
Program.....Walter S. Lacher
Membership.....H. J. Fixmer

Abbott, Wm. L.
Abmeyer, A. S.
Allen, Elbridge
Andersen, Mads C.
Andrew, C. R.
Andrews, James H.
Arn, W. G.
Asmann, Edwin N.
Bacon, R. H.
Bagnard, Ernest A.
Barr, Frank C.
Betty, Paul L.
Becher, Clifford C.
Becker, Donald N.
Bennett, J. Gardner
Bethel, Robt. L.
Bouscaren, Louis H. G.
Brunke, Robert R.
Burdick, Charles B.
Cahill, James B.
Condron, Theodore L.

Crawford, Mary A. E.
De Berard, W. W.
Dexheimer, Roy B.
Draffin, Jasper O.
Eneborg, Carl G.
Enger, Melvin L.
Fetters, Donald W.
Fixmer, Hugh J.
Flook, Lyman R.
Gilkey, H. J.
Greeley, Samuel A.
Hadwen, T. Lovel D.
Hausler, M. G., Jr.
Heald, Henry T.
Heald, James H.
Henderson, Frank B.
Hendrickson, E. R.
Herron, James C.
Hillman, F. W.
Hoberg, F. G.
Hughes, Lorne J.
Hute, Leonard J.
Jackson, Dugald C., Jr.
Johnson, Elmer A.
Jones, Roy E.
Knudsen, Harold B.

Kucho, Jos., Jr.
Lacher, Walter S.
Lantz, Lawrence L.
Latimer, George T.
Lorber, Seymour J.
Marshall, S. C.
Mason, William C.
Mayo, Robert S.
Merriman, Chester F.
Miller, Donald W.
Morrison, R. J.
Mottier, Charles H.
Murbach, Edward C.
Murray, Arthur P.
Nass, Vincent W.
Orr, Frank L.
Penn, Henry
Potter, W. G.
Prager, F. D.
Randall, Frank A.
Schafmayer, A. J.
Schweitzer, Arthur R.
Snow, Frank W.
Ventrella, Angelo D.
Wayne, A. Alvin
Whitton, A. William

WOMEN'S COUNCIL

Chairman.....Georgiana H. Peeney
Corr. Secretary.....Mary L. Murphy

Artman, Mrs. Margaret E.
Ashwell, Iris
Barnett, Mrs. E. F.
Crawford, Mary A. E.
Horneman, Beatrice C.
Lawrence, Clara E.

Lund, E. Vera
McCabe, Mrs. Edith R.
Merrill, Mrs. Dot
Murphy, Mary L.
Peeney, Georgiana H.
Perkins, Ruth H.

A NICE PLACE TO BRING
YOUR FRIENDS . . .

W.S.E. HEADQUARTERS

- Friendly Atmosphere
- Delicious Meals
- Modern Lounge and Diningroom

84 E. Randolph St.

RA. 6-1736

JUNIOR DIVISION

Chairman.....William F. Schlax
Vice Chairman.....John P. Gnaedinger
Secretary.....Robert E. Kraft
Program.....Gerald W. Groepper
Publications.....Clifton H. Hubbell
Civic.....Bolton G. Anderson
Library.....Joseph Kucho, Jr.
Membership.....Carl G. Bergstrom

Adams, Theodore J.
Andersen, Charles H.
Appleby, Joseph, Jr.
Arens, Albert H.
Ball, John F.
Bechtolt, P. Robert
Beem, Frederick A.
Bergslien, Robert M.
Bergstrom, Carl G.
Bessett, Clifford H.
Blada, Andrew S.
Bower, Wells S.
Brater, Bernard H.
Brinker, Robert W.
Busch, Joseph S.
Chapman, Edward L.
Conway, Edward F.
Dailey, Eugene E.
DeBoer, Herman O., Jr.
De Carlo, Daniel J.
Dingle, Gordon K.
Dunn, Frederick
Enander, John O.
Erickson, Ray F.
Eyer, Robert F.
Fitzgerald, Arthur T.

Flood, Paul E.
Garlick, David J.
Gavin, Richard I.
Gerba, Alex, Jr.
Ghiselli, W. A., Jr.
Gnaedinger, J. P.
Gockman, Edward C.
Goldstein, Milton
Golick, Richard
Gore, Leonard E.
Greenstein, Jerome
Groepper, Gerald W.
Gross, Maurice N.
Grover, Donald A.
Guske, James A.
Habenicht, George C.
Hamilton, Robert S.
Henriades, James
Hoffenberg, Nathan
Hubbell, Clifton H.
Hughes, Robert J.
Hullinger, R. W.
Humiston, John F.
Hurlbut, H. D., Jr.
Jones, James R.
Klimczak, Ernest J.
Kobos, Roman L.
Kovar, Joseph F.
Kraft, Robert E.
Krammer, Robert
Kurinsky, John S.
Kus, Elmer A.
Kutaj, Walter C.
Lawton, Jack W.
Levitsky, Leonid
Lewis, Richard J.
Lorber, Seymour J.
Luecker, F. A.
McJohnston, Claude A.

Mayer, Paul R.
Merkelz, Frank W.
Mickiewicz, Stanley R.
Milligan, Leslie W.
Moore, Maurice J.
Mueller, Carl F.
Nielsen, Harvey C.
Nill, Raymond
North, Wm. L.
O'Brien, Kenneth W.
O'Connor, William T.
O'Toole, William A.
Palmquist, D. W.
Peterson, C. T., Jr.
Peterson, Frank E.
Pugh, Clyde S. C.
Quilty, T. Frank
Reilly, Lawrence E.
Sammons, Frank D., Jr.
Sampson, Roy E.
Schlax, William F.
Schmaus, Richard H.
Scott, W. Kenneth
Seaberg, Robert
Semaitis, Albert J.
Sener, Charles J.
Slack, William E.
Strid, Oscar W.
Theilgaard, Harvey L.
Towle, James H.
Umeda, Joe
Valonis, Edmund J.
Valvoda, Frank R.
Van Zelst, Theodore W.
Varenhorst, Francis G.
Weber, John P., Jr.
Wilde, Richard D.
Young, R. E.
Zacher, Clarence H. R.

HORTON STEEL PLATE STRUCTURES



The above view illustrates the types of steel storage tanks which we fabricate and erect. It shows nine 5,000-bbl. cone roof tanks 30 ft. in diam. by 40 ft. high for the storage of gasoline; three 2,000-bbl. fuel oil tanks 25 ft. in diam. by 24 ft.; four 5,000-bbl. Hortonspheres 38 ft. in diam., used to store butane; one 25,000-gal. cylindrical tank 120 in. in diam. by 40 ft. 4 in. long; and three 19,000-gal. propane tanks, 106 in. in diam. by 39 ft. 2 1/4 in.

In addition to the tanks mentioned above, we design, fabricate and erect many kinds of refinery towers; Hortonspheroids and Hemispheroids for pressure storage; and vapor saving devices such as Horton Floating Roofs, Horton Liquid-Seal Lifter Roofs, Horton Vapordome Roofs and Horton Vaporspheres. Our plants have facilities for X-raying and stress-relieving vessels to meet code requirements. Write our nearest office for quotations.

CHICAGO BRIDGE & IRON COMPANY

Atlanta
Birmingham

Boston
Chicago

Cleveland
Detroit

Houston
Los Angeles

New York
Philadelphia

Salt Lake City
San Francisco

Seattle
Tulsa

Plants at BIRMINGHAM, CHICAGO, SALT LAKE CITY AND GREENVILLE, PA.

Officers and Trustees — Past and Present

NAME	President	1st Vice-Pres.	2nd Vice-Pres.	3rd Vice-Pres.	Treas.	Trustee	Secy.
Abbott, W. L.	1907-08	1906-07	1904-05				
Allen, Andrews	1909-10	1907-08	1906-07		1902-06		
Allen, E. W.						1921-24	
Alvord, J. W.	1910-11	1908-09				1902-05	
Andrew, C. R.						1938-43	
Appleton, Thos.							1894-95
Armstrong, W. C.	1912-13	1911-12				1907-10	
Arn, W. G.						1934-36	
Arnold, B. J.	1906-07					1900-03	
Artingstall, S. G.	1887-88					1886-88	
Bainbridge, F. H.						1906	
Baker, H. S.						1914-17	
Baker, Ira O.			1887-88 1892-93	1911-12			
Baldwin, A. S.	1919-20			1918-19			
Barnes, D. L.					1894-96		
Bates, Onward	1899-00						
Bates, W. S.					1888-89		
Becker, Donald N.					1948-	1944-46	
Bement, A.		1912-14 1939-40	1910-11 1938-39				
Bennett, J. Gardner			1937-38				
Blake, Edw. J.		1900-01					
Booth, K. F.			1882-83 1902-03				
Breckenridge, L. P.				1905-06			
Brill, G. M.						1909-12	
Brumley, D. J.	1932-33	1931-32 1929-30	1928-29	1927-28			
Brunner, John						1906-09	
Burdick, C. B.	1918-19		1915-16				
Burt, H. J.	1917-18		1916-17				
Bushman, A. K.			1944-45			1941-44	
Carpenter, Horace			1923-24				
Carter, Edw. C.	1905-06	1892-93					
Carlidge, C. H.		1916					
Casad, M. W.					1945-		
Cauley, F. F.						1924-27	
Chamberlain, O. P.	1911-12	1910-11	1909-10			1915-18	
Chanute, Octave	1901-02	1885-86	1888-89			1891-94	
Chase, Frank D.	1931-32	1930-31		1929-30		1925-28	
Chesbrough, E. S.	1873-77 1880-82						
Clark H. H.				1923-24			
Clarke, W. H.						1869-74*	
Cleveland, H. W. S.						1874-75*	
Condron, T. L.			1899-00				
Cooley, L. E.	1890-92	1887-88					1888-89
Copeland, F. K.	1920-21	1919-20					
Corthell, E. L.	1889-90						
Cosley, H. H.						1933-35	
Cregier, D. C.	1883-85	1882-83	1880-82				
Cunningham, J. D.						1935-37	
Curtis, W. W.						1910-13	
Dailey, John A.						1922-25	
Dalstrom, O. F.						1917-20	
Dart, C. R.			1911-12		1913-20		
Davidson, F. E.						1913-16	
DeBerard, W. W.				1917-18		1918-20	
De Leuw, C. E.						1947-	
Draper, H. C.			1894-95				
Durham, C. W.						1874-75*	
Egloff, Gustav		1948-	1947-48			{1938-41 1944-	
Elfstrom, P. R.	1944-45	1943-44	1942-43		1938-42		
Felt, C. F. W.		1920-21					
Field, H. H.						1931-33	
Finley, Wm. H.	1902-03	1901-02	1900-01				
FitzSimmons, Chas.					1880-87	1889-92	
Fowle, F. F.	1935-36	1922-23	1921-22		1920-21		
Fowler, M. M.				1926-27		1923-26	

The names of deceased Members are printed in italics.

*Executive Committee preceded Trustees.

NAME	President	1st Vice-Pres.	2nd Vice-Pres.	3rd Vice-Pres.	Treas.	Trustee	Secy.
Fox, E. Gordon	1940-41		1939-40	1938-39			
French, W. M. R.						1875-78*	
Garcia, John A.	1928-29	1927-28	1926-27	1925-26			
Gayton, L. D.						1932-34	
Gear, Harry B.	1933-34	1932-33	1930-32				
Gebhardt, G. F.				1914-15			
Gerber, Emil					1896-98		
Giaver, J. G.						1912-15	
Goldmark, Henry							1896
Gordon, F. G.	1942-43	1941-42	1940-41		1937-38	1934-37	
Goss, W. F. M.				1909-10			
Gottlieb, A.	1888-89					1886-89	
Grant, B. E.	1916-17	1914-15	1901-02 1913-14			1903-06	
Greeley, S. S.		1883-84				1875-80* 1880-83	
Green, O. B.						1888-91	
Hall, Ferd						1897-00	
Hand, Geo. W.					1923-28	1928-30	
Hansen, Paul						1943-44	
Harger, Kendrick						1940-43	
Harper, R. B.			1945			1942-45	
Hart, G. A.						1920-21	
Hatch, J. N.		1918-19	1917-18				
Hatt, W. K.				1910-11			
Haupt, C. W.					1934-36		
Hayford, J. F.				1913-14			
Heald, H. T.	1945-46	1944-45	1943-44			1939-42	
Hecht, J. L.	1922-23	1921-22	1920-21	1919-20			
Herr, Hiero	1894-95		1893-94				
Hjortsberg, Max						1869-74*	
Horton, Horace E.	1895-96					1896-99	
Hotchkiss, C. W.		1904-05				1901-04	
Howson, E. T.	1924-25	1923-24		1922-23		1919-22	
Howson, L. R.	1937-38	1936-37	1935-36	1933-35			
Hudson, C. H.		1886-87					
Hunt, Robert W.	1893-94					1894-97	
Huntington, W. C.						1936-39	
Imhoff, Eldon A.						1947-	
Jackson, Dugald C.				1906-07			
Jackson, Wm. B.	1915-16						
Johnson, Thos. T.	1897-98	1896-97	1895-96				
Junkersfeld, Peter		1909-10	1908-09				
Kahler, W. V.	1947-48	1946-47	1945-46			1944-45	
Keith, Leigh S.		1934-35	1933-34	1932-33	1928-32		1935-47
Kinney, Wm. M.			1918-19				
Knowles, C. R.			1934-35				
Kurtz, W. O.	1930-31		1929-30	1928-29			
Lane, F. H.	1941-42	1940-41		1939-40		1936-39	
Lane, Moses		1880-82					
Layfield, E. N.			1907-08				1915-17
LeClair, Titus G.	1946-47	1945-46			1942-45	1937-40	
Lee, E. H.	1914-15						
Lenth, Geo. C. D.						1916-19	
Libberton, J. H.						1920-21	
Liljencrantz, G. A. M.		1905-06				1895-98	
Litten, Nelson L.							1896-01
Lowell, J. W.						1921-22	
Loweth, C. F.	1908-09		1905-06				
McClure, R. J.						1880-87	
McClurg, V. O.	1948-	1947-48	1946-47			1942-45	
McCullough, Ernest		1915-16	1914-15			1911-14 1916	
McElroy, Samuel			1885-86 1889-90				
McHarg, W. S.						1882-85	
MacDowell, C. H.	1921-22						
Macomb, J. deN.						1946-	
MacRitchie, Chas.		1889-90					
Mapes, L. R.	1939-40	1938-39	1937-38	1936-37		1933-36	
Mason, Roswell B.	1869-70						
Massey, Geo. B.						1939-42	
Mead, Daniel W.		1894-95		1908-09			

NOTE: *Executive Committee preceded Trustees.

NAME	President	1st Vice-Pres.	2nd Vice-Pres.	3rd Vice-Pres.	Treas.	Trustee	Secy.
<i>Melcher, C. W.</i>					1898-00		
<i>Miller, K. B.</i>		1919					
<i>Modjeski, Ralph</i>	1903-04	1902-03			1900-02		
<i>Monroe, Wm. S.</i>	1929-30	1928-29	1927-28				
<i>Morehouse, L. P.</i>		1895-96			1869-80		1869-88
<i>Morison, Geo. S.</i>						1893-96	
<i>Morrow, F. E.</i>	1926-27	1925-26	1924-25				
<i>Morse, C. A.</i>	1923-24		1922-23				
<i>Nagler, K. B.</i>						1935-38	
<i>Nethercut, Edgar S.</i>							1917-35
<i>Newell, F. H.</i>				1916-17			
<i>Nichols, Geo. P.</i>						1898-01	
<i>Niesz, Homer E.</i>	1925-26	1924-25			1921-23		
<i>Noble, Alfred</i>	1898-99	1897-98	1896-97				
<i>Northway, W. R.</i>			1890-91				
<i>Nourse, Edwin G.</i>					1893-94		
<i>Nutt, H. C.</i>						1880-82	
<i>Osborn, C. M.</i>					1936-37		
<i>Paine, Charles</i>	1870-73						
<i>Parkhurst, H. W.</i>	1904-05	1903-04			1889-90		
<i>Penn, Henry</i>						1946-	
<i>Pence, W. D.</i>				1904-05			
<i>Pope, Willard S.</i>	1882-83						
<i>Powell, Ambrose V.</i>	1900-01		1898-99		1887-88		
<i>Putnam, Rufus W.</i>	1927-28	1926-27	1925-26	1924-25			
<i>Randall, Frank A.</i>						1935-38	
<i>Randolph, Isham</i>	1892-93	1884-85	1883-84				
<i>Reichmann, Albert</i>	1913-14				1906-13		
<i>Reynolds, James J.</i>		1898-99	1897-98			1901	
<i>Rich, E. P.</i>						1926-29	
						1934-35	
<i>Ritter, L. E.</i>						1908-11	
<i>Roney, Chas. J.</i>							1895-96
<i>Roper, D. W.</i>		1916-18	1916				
<i>Rust, H. A.</i>		1893-94				1887-90	
<i>Sedwick, H. P.</i>			1948-			1945-47	
<i>Seely, G. T.</i>			1912-13				
<i>Seymour, W. O.</i>			1891-92				
<i>Shailer, Robert A.</i>		1890-91					
<i>Shankland, F. C.</i>				1912-13			
<i>Shapiro, B. B.</i>				1921-22			
<i>Smith, Homer K.</i>						1945-	
<i>Smith, W. Sooy.</i>	1877-80					1883-86	
<i>Snow, T. W.</i>						1904-07	
<i>Steger, Donald V.</i>							1947-
<i>Strasser, R. J.</i>						1937-40	
<i>Strobel, C. L.</i>						1892-95	
<i>Sykes, Wilfred</i>						1948-	
<i>Talbot, A. N.</i>				1907-08			
<i>Townsend, H. C.</i>						1943-46	
<i>Turneure, F. E.</i>			1903-04				
<i>Turner, Ralph E.</i>						1945-	
<i>VanPelt, J. R.</i>	1936-37	1935-36				1934-35	
<i>Vore, M. P., Jr.</i>					1948-		
<i>Wallace, John F.</i>	1896-97	1891-92					
<i>Wardner, J. H.</i>							1901-15
<i>Webb, C. Earl</i>	1943-44	1942-43	1941-42			1940-41	
<i>Westburg, Paul A.</i>	1938-39	1937-38	1936-37	1935-36	1932-34		
<i>Weston, C. V.</i>						1929-32	
<i>Weston, John W.</i>		1888-89			1890-93		1889-94
<i>White, Linn</i>				1920-21			
<i>Whiting, F. T.</i>						1948-	
<i>Whitney, Nelson O.</i>		1899-00					
<i>Whitridge, John C.</i>					1902		
<i>Whittemore, D. J.</i>			1886-87				
<i>Whittier, C. C.</i>	1934-35	1933-34	1932-33	1930-32		1927-30	
<i>Williams Benezette</i>	1885-86					1878-80*	
<i>Wisner, G. M.</i>						1905-08	
<i>Woodworth, P. B.</i>				1915-16			
<i>Wright, Augustine W.</i>	1886-87		1884-85			1885-86	
<i>Young, Hugh E.</i>						1941-44	
<i>Ziesing, August</i>						1899-02	

Names of deceased Members are printed in italics.

*Executive Committee preceded Trustees.

PAST PRESIDENTS OF WSE

Name	Lenth of Term
Roswell B. Mason.....	June 14, 1869, to June 13, 1870
Charles Paine.....	June 13, 1870, to June 9, 1873
E. S. Chesbrough.....	June 9, 1873, to June 19, 1877
Wm. Sooy Smith.....	June 19, 1877, to Aug. 3, 1880
E. S. Chesbrough.....	Aug. 3, 1880, to Jan. 2, 1882
Willard S. Pope.....	Jan. 2, 1882, to Jan. 8, 1883
DeWitt C. Creiger.....	Jan. 9, 1883, to Jan. 6, 1885
Benezette Williams.....	Jan. 6, 1885, to Jan. 5, 1886
A. W. Wright.....	Jan. 5, 1886, to Jan. 4, 1887
S. G. Artingstall.....	Jan. 4, 1887, to Jan. 3, 1888
A. Gottlieb.....	Jan. 3, 1888, to Jan. 8, 1889
E. L. Corthell.....	Jan. 8, 1889, to Jan. 8, 1890
L. E. Cooley.....	Jan. 8, 1890, to Feb. 3, 1892
Isham Randolph.....	Feb. 3, 1892, to Jan. 4, 1893
Robert W. Hunt.....	Jan. 4, 1893, to Jan. 3, 1894
Hiero B. Herr.....	Jan. 3, 1894, to Jan. 2, 1895
Horace E. Horton.....	Jan. 2, 1895, to Jan. 2, 1896
John F. Wallace.....	Jan. 2, 1896, to Jan. 5, 1897
Thos. T. Johnston.....	Jan. 5, 1897, to Jan. 4, 1898
Alfred Noble.....	Jan. 4, 1898, to Jan. 3, 1899
Onward Bates.....	Jan. 3, 1899, to Jan. 2, 1900
Ambrose V. Powell.....	Jan. 2, 1900, to Jan. 8, 1901
Octave Chanute.....	Jan. 8, 1901, to Jan. 7, 1902
William H. Finley.....	Jan. 7, 1902, to Jan. 6, 1903
Ralph Modjeski.....	Jan. 6, 1903, to Jan. 5, 1904
H. W. Parkhurst.....	Jan. 5, 1904, to Jan. 3, 1905
Edward C. Carter.....	Jan. 3, 1905, to Jan. 2, 1906
Bion J. Arnold.....	Jan. 2, 1906, to Jan. 8, 1907
W. L. Abbott.....	Jan. 8, 1907, to Jan. 7, 1908
C. F. Loweth.....	Jan. 7, 1908, to Jan. 5, 1909
Andrews Allen.....	Jan. 5, 1909, to Jan. 12, 1910
J. W. Alvord.....	Jan. 12, 1910, to Jan. 11, 1911
O. P. Chamberlain.....	Jan. 11, 1911, to Jan. 10, 1912
W. C. Armstrong.....	Jan. 10, 1912, to Jan. 8, 1913
Albert Reichmann.....	Jan. 8, 1913, to Jan. 7, 1914
E. H. Lee.....	Jan. 7, 1914, to Jan. 13, 1915

Name	Lenth of Term
Wm. B. Jackson.....	Jan. 13, 1915, to Jan. 12, 1916
B. E. Grant.....	Jan. 12, 1916, to Jan. 10, 1917
H. J. Burt.....	Jan. 10, 1917, to Jan. 9, 1918
Chas. B. Burdick.....	Jan. 9, 1918, to Jan. 22, 1919
A. S. Baldwin.....	Jan. 22, 1919, to Jan. 28, 1920
F. K. Copeland.....	Jan. 28, 1920, to June 1, 1921
C. H. MacDowell.....	June 1, 1921, to June 7, 1922
J. L. Hecht.....	June 7, 1922, to June 6, 1923
C. A. Morse.....	June 6, 1923, to June 4, 1924
E. T. Howson.....	June 4, 1924, to June 3, 1925
Homer E. Niess.....	June 3, 1925, to June 2, 1926
F. E. Morrow.....	June 2, 1926, to June 1, 1927
Rufus W. Putnam.....	June 1, 1927, to June 6, 1928
John A. Garcia.....	June 6, 1928, to June 5, 1929
William S. Monroe.....	June 5, 1929, to June 1, 1930
W. O. Kurtz.....	June 1, 1930, to June 1, 1931
Frank D. Chase.....	June 1, 1931, to June 1, 1932
D. J. Brumley.....	June 1, 1932, to June 1, 1933
Harry B. Gear.....	June 1, 1933, to Aug. 1, 1934
Charles C. Whittier.....	Aug. 1, 1934, to Aug. 1, 1935
Frank F. Fowle.....	Aug. 1, 1935, to Aug. 1, 1936
J. R. Van Pelt.....	Aug. 1, 1936, to Aug. 1, 1937
L. R. Howson.....	Aug. 1, 1937, to Aug. 1, 1938
Paul A. Westburg.....	Aug. 1, 1938, to Aug. 1, 1939
L. R. Mapes.....	Aug. 1, 1939, to June 1, 1940
E. Gordon Fox.....	June 1, 1940, to June 1, 1941
F. H. Lane.....	June 1, 1941, to June 1, 1942
Fred G. Gordon.....	June 1, 1942, to June 1, 1943
C. Earl Webb.....	June 1, 1943, to June 1, 1944
Philip R. Elfstrom.....	June 1, 1944, to June 1, 1945
Henry T. Heald.....	June 1, 1945, to June 1, 1946
Titus G. Le Clair.....	June 1, 1946, to June 1, 1947
W. V. Kahler.....	June 1, 1947, to June 1, 1948

The names of deceased Past Presidents are printed in italics.

HONORARY MEMBERS—PAST AND PRESENT

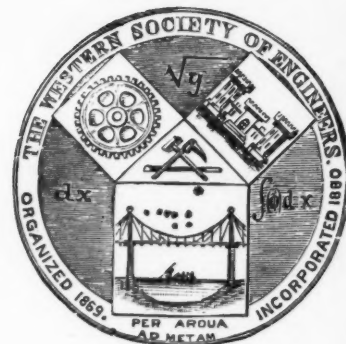
Name	Date Elected
L. P. Moorhouse.....	Dec. 7, 1887
Octave Chanute.....	Jan. 5, 1909
Grenville M. Dodge.....	May 20, 1909
D. J. Whittemore.....	Dec. 6, 1910
Geo. W. Goethals.....	Jan. 22, 1915
John E. Blunt.....	Jan. 10, 1917
Alonzo W. Paige.....	Jan. 10, 1917
Onward Bates.....	Mar. 22, 1922
Robert W. Hunt.....	Mar. 22, 1922
Herbert Hoover.....	June 2, 1926
Samuel Insull.....	June 2, 1926
Ralph Modjeski.....	June 2, 1926
Bion J. Arnold.....	June 1, 1927
Arthur N. Talbot.....	June 1, 1927
E. C. Carter.....	June 5, 1929

John W. Alvord.....	April 28, 1931
Arthur H. Compton.....	April 28, 1931
C. F. Loweth.....	April 28, 1931
W. L. Abbott.....	April 28, 1931
John F. Stevens.....	Oct. 29, 1935
Benjamin F. Affleck.....	Sept. 26, 1938
George Terry Horton.....	Jan. 7, 1944
Daniel Webster Mead.....	Jan. 7, 1944
Theodore L. Condron.....	Mar. 26, 1945
Albert Reichmann.....	Mar. 26, 1945
Charles B. Burdick.....	April 8, 1946
William S. Monroe.....	April 8, 1946
Harry B. Gear.....	May 5, 1947
Julius L. Hecht.....	May 5, 1947
Ralph Budd.....	May 12, 1948

The names of deceased Honorary Members are printed in italics.

DO YOU KNOW

The Meaning Behind Our Society's Seal



I'll confess that until recently I didn't. This despite the fact that I've seen it reproduced hundreds of times and have even scrutinized the original drawing which now hangs at Headquarters.

The thought came to me that perhaps many of our new members—and old ones, too—have often wondered just what our Seal stands for. After a considerable search, I found the complete story—told in the designer's own words—which I'd like to pass along. My own reaction upon reading it was one of pride. Pride in the fact that I belong to a profession and a Society which has such an unusual background of tradition and accomplishment.

One of the things which impressed me most about our Seal is that its motto, "Through Difficulties to the Aim," is so appropriate for us today because of the hard work which lies ahead in establishing our new headquarters, and in achieving our ultimate goal of an Engineering and Science Center for Chicago.

The story of our Seal begins on March 7, 1882, when Vice President D. C. Cregier appointed a three-man committee to seek designs from among W.S.E.'s membership. Slightly more than two months later, this committee was able to report that it had selected the design submitted by G. A. M. Liljencrantz as the most appropriate one and that it had been approved by the Trustees. The very speed with which the Seal was designed and approved indicates that even in its early days our Society got things done rapidly.

The committee then asked Mr. Liljencrantz to prepare a detailed description of his design. Here is what he wrote:

"It has been the aim of the designer to indicate by appropriate emblems, as far as space and other circumstances would allow, the different branches of engineering represented in the Society, and some of the fundamental branches on which the manifold works of our profession are based.

"Thus, the suspension bridge, the sounding party, and 'Polaris,' the guiding star for those who seek the true meridian, and its assistant, the 'Dipper,' are emblematical of the Civil Engineers. The Mining Engineers are represented by some of their working tools, the sledge, the pick and the drill; while the castle and the cogwheel are the universally adopted emblems of the Military and Mechanical Engineers, respectively.

"These several designs are inclosed in the four fields produced by the construction of the famous 47th problem of Euclid, probably the most prominent and useful problem in geometry, wherefore this has been deemed the most appropriate representative of that important branch of science.

"Algebra and higher mathematics, the calculus, are also represented by well known signs pertaining to these branches.

"Finally, the motto, 'Per ardua ad metam,' which translated means, 'Through Difficulties to the Aim,' intended to indicate the universal purpose of all the different branches of the engineering profession, has been given in Latin, not to intimate thereby that this is the language with which the representatives of our profession are most familiar, but in the first place to get a comprehensive expression in a most condensed form; secondly, to make it more professional in appearance and, finally, because, if I am permitted to use a common phrase, 'They all do it.'"

WM. V. KAHLER,

ACCURATE STEEL TREATING CO.

226 W. Hubbard St.

Chicago 12, Illinois

Telephone: SEeley 3-7391

COMMERCIAL HEAT TREATER



WALTER H. FLOOD & CO.

CHEMICAL ENGINEERS

INSPECTION AND TESTING
OF MATERIALS AND STRUCTURES

SUPERVISION OF CONSTRUCTION

CONCRETE CORE CUTTING

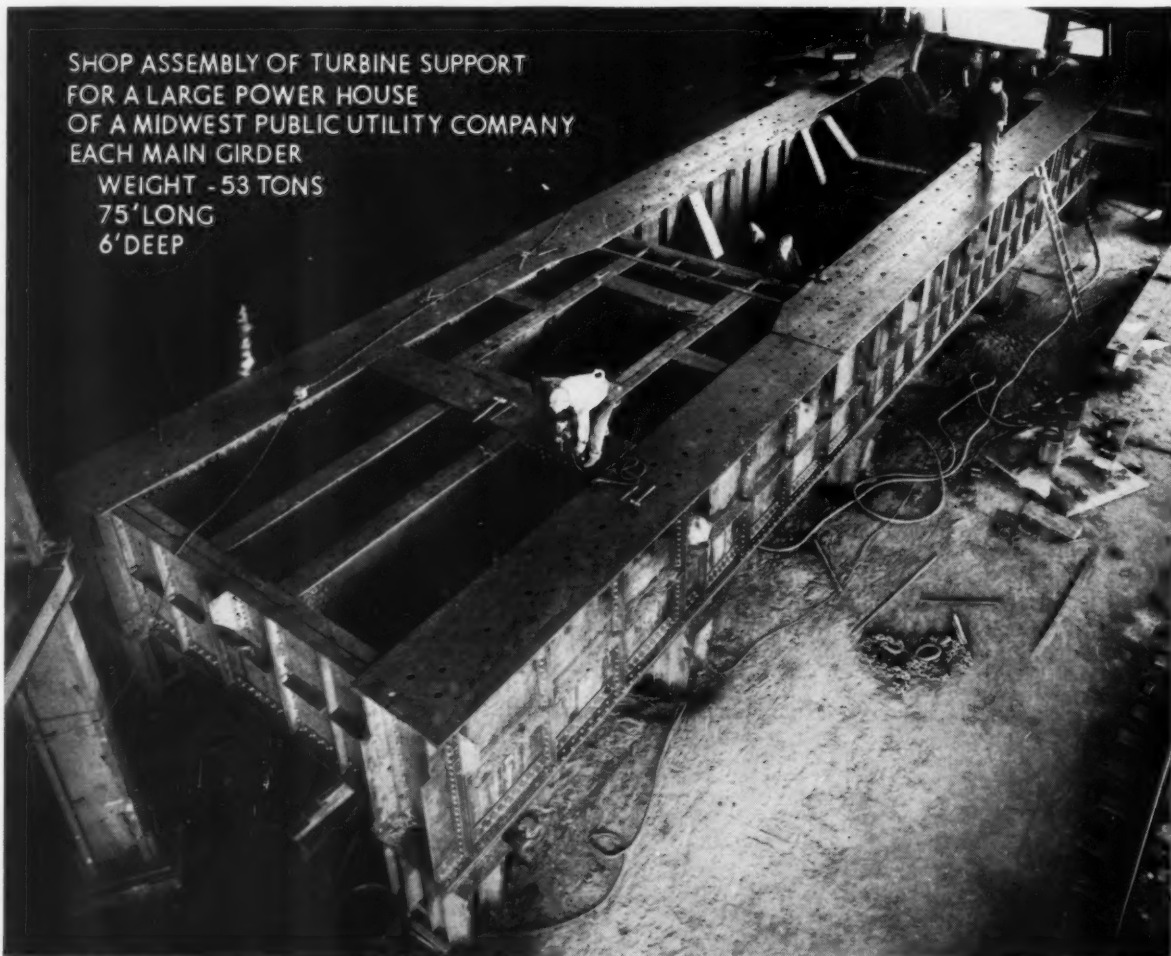
Research, Investigation, Testing, Inspection
and Consultation on Materials, Processes and Problems
Relating to the Construction Industry

6102 S. BLACKSTONE AVENUE

CHICAGO 37, ILL.

Branch—1332-4 N. Westnedge Ave., Kalamazoo 53, Mich.

SHOP ASSEMBLY OF TURBINE SUPPORT
FOR A LARGE POWER HOUSE
OF A MIDWEST PUBLIC UTILITY COMPANY
EACH MAIN GIRDER
WEIGHT - 53 TONS
75' LONG
6' DEEP



STRUCTURAL STEEL FABRICATED BY
**MISSISSIPPI VALLEY
STRUCTURAL STEEL CO.**



CHICAGO

DECATUR

ST LOUIS

